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ABSTRACT

To plan the implementation of a comprehensive vocational education program in the Manchester, New Hampshire, school system, a research and development program was conducted by the cooperative education coordinator, the vocational education director, and school administrators and teachers. Community data to support the rationale for vocational education in the school system provided a base for a needs assessment survey of individual business firms and students to show the need for specific vocational education offerings. On the basis of these surveys, three pilot programs were initiated to demonstrate to the community what type of teaching and curriculum were being planned through the project. Curriculums judged best for the Manchester area were produced and a long-range plan for the total program implementation was prepared, calling for gradual incorporation of vocational courses in existing schools and the planning of a separate vocational school. (MF)

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FINAL REPORT OF PROJECT RE 71-06

New Hampshire State Department of Education
Division of Vocational Technical Education

Funded by Research funds under P.L. 90-576 as part of the Manchester New Hampshire Regional Vocational Education Planning Project (MANREVEP)

Project Duration: April 1971 - August 1972

Funding:

Research and Exemplary Programs, P.L. 90-576	$20,000
Other	78,000

Purpose:

To research, plan and organize a regional center vocational education program.

Submitted by

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Superintendent of Schools
88 Lowell Street
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15 November 1972

VT018545

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ABSTRACT

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Over a 15-month period, in consultation with a community advisory committee, the Manchester School Department Vocational Education Director, Cooperative Education Coordinator, consultants and supervisory union administrative and teacher personnel, conducted a vocational education research and development program resulting in a five-part package as follows:

I. Pertinent community data to support the development of a rationale for vocational education in the school system and the needs and directions of the labor market in the area. This provided a base from which to assess the stated needs and interests of the business and student target population.

II. The gathering of data through a needs assessment survey of individual business firms and students to support the need for specific vocational education offerings. This revealed a logical justifiable starting point for the long range development of a comprehensive vocational education curriculum. On the basis of this survey and existing expertise of the Cooperative Education Coordinator and Vocational Education Director, three pilot programs with nine selected students were immediately initiated to validate the approach to be recommended for implementation of vocational education programs and demonstrate immediately to the community what type of teaching and curriculum was being planned through the project.

III. A vocational education philosophy for comprehensive secondary education; identification of problems and establishment of goals; and specific recommendations to support this type of education. This provided basic planning and implementation guidelines upon which the vocational education program was developed and will be updated and revised.

IV. A curriculum necessary to implement the vocational education program, including scope and sequence time frames, course outlines, task analysis data, performance objectives for teacher and learner, was produced through analysis of model curriculums in the field and selection and adaptation of sections of these which, from the perspective of Parts I, II and III, were agreed upon as best for the Manchester area and school system needs and resources.

V. A six-year long range plan for the total educational program implementation, which calls for gradual phasing in of vocational education offerings within existing space resources, and planning of a separate vocational courses center for the school department for operation beginning in the sixth year.

SUMMARY

SUMMARY

The Manchester Area Vocational Center Planning Project was established in May of 1971 and office resources were located at the administrative building of the Manchester School Department. Funding arrangements initiated by the Superintendent and the Federal Funds Coordinator were reorganized to suit the requirements of the funding sources. About one-third of the budget was Cooperative Education funding which indicated our research would be primarily in this area and the results of the project would reflect that fact.

A Spring contact with the principals, department heads, and teachers set the scene for present facilities analysis, which was supported by the April 1972 visitation of the Vocational Technical Division of the New Hampshire Department of Education. This state department visitation was made at the request of the Vocational Director to provide the Superintendent and other concerned individuals with unbiased evaluations and recommendations for implementation of programs in the fall of 1972.

All educators today find the successful programs for the youth and adult training programs involve relevant education offerings. Emphasis is placed on providing opportunities for every individual to realize achievement and develop his potential. This means that each individual's functional responsibility is guided by an educational profile planned to align the performance expectations of both the individual and the public sector. This in turn means education sets objective terms that can be

measured by all participants, - the student, the teacher, the employer and the public.

If we are to expect students to stay in these programs of education they must be actively involved in the development of vocational programs and facilities must be attractive with high accountability to the students and community. A conscious effort must be made to have students see the various aspects of the program and become actively involved if they are to identify the opportunities available to them.

The vocational department embarked on a visitation program of other vocational facilities in New Hampshire and nearby states to locate consultants who could conduct in-service workshops for Manchester Teachers from the pre-vocational areas. Mr. John Stephani from Project SPOKE, Norton, Massachusetts was selected and a teacher training program was initiated in October of 1971 to retrain staff in the area of behavioral objective outlined programs. The teachers were very receptive and with continuation of summer workshops in 1972 we will be able to orient teachers to the present needs of today's student. We cannot do business as usual in the Manchester classrooms if we are to bring more relevant education to our vocational programs.

Forty thousand or more different job titles comprise the labor market today and each requires certain cognitive and manipulative competencies. In addition, newly created job functions, or combinations are being blended to create new titles with varied knowledge and skills. Performance standards and expectations of students for entry-level jobs must be clearly defined.

Analysis by job function provides a rationale for clustering related bodies of knowledge and identifying educational experiences that develop these competencies needed for job entry levels.

The technique of clustering jobs that require a range of competencies, by design, establishes a continuum, both horizontally and vertically, of student spin off points. When the competencies match the entry level requirements, the student qualifies for placement on a part time basis and is given school credit for work experience with related classroom instruction geared to that specific job.

The present strategy of implementation is limited by the physical facilities available to the school department and state recommended space guidelines. This indicated to us that any program implementaion would require new or additional facilities. In view of this problem an architect was consulted and then contracted to study and recommend sites and facilities.

Application for the planning project grant was made by the Manchester School Board after determining citizen concern for the lack of Vocational Education in the public schools. Exploratory programs of various types were offered but the skill development area was receiving little or no effort.

Manchester had five of its six junior and senior high schools overcrowded to a point where double sessions were anticipated for 1972 or 1973, thus posing a two-pronged problem:

1. Facilities additions
2. Curriculum development for Vocational Education

Mr. C. James Covis was hired as project director and Mrs. Theresa Sullivan was hired as Cooperative Education Coordinator to organize and conduct the planning project. During May and June 1971 the staff was organized and a secretary and account clerk were assigned as part of the organization of a local planning staff.

The planning application to the Research Coordinating Unit of the State Vocational-Technical Education Division was submitted in March and granted $20,000. A Model Cities Agency grant for $25,000 was obtained and Cooperative Education funds, LEA contributions and regular Vocational Education funds allocated to fund the overall project at an authorized $98,412.

The project aimed to implement the State Plan[1] to develop 20 area vocational centers. Manchester had been designated as one of these centers.

The local school board appointed a regional advisory council as a consultant group of concerned citizens from the business community.

The project staff then set about the task of data collection and interviewed several consultants. The New England Resource Center for Occupational Education was most helpful, and provided valuable assistance through Dr. Richard A. Gustafson, Director of Manpower and Management Services.

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[1] Attachment C, State Plan Excerpts

A needs assessment survey was needed to develop a sound basis for vocational education in the Manchester school system. A speaking tour of social, business and union organizations was arranged to inform the community of efforts to develop programs to suit the needs of all.

Pupil population data and present prevocational facilities analysis started early in the fall and pupil aspirations were garnered through a student interest survey conducted in October, 1971.

Manpower and economic data were then designated as the target and a survey instrument was designed with the help of local business groups. The instrument was sent to 600 business firms selected at random and other manpower data was gathered from the New Hampshire Department of Employment Security, the local Chamber of Commerce, Model Cities Agency, the State Division of Vocational Technical Education, the New England Regional Commission, U.S. Labor Department and the U.S. Department of Commerce. (See Part's I and II)

Teacher training workshops were conducted to develop teacher competencies and behavioral objective abilities within the personnel currently employed by the City of Manchester.

The facilities analysis of the local schools started in the fall and winter of the school year to help the planning team understand the delivery capacity of present facilities and possible facilities that might be acquired to alleviate the overcrowded conditions.

The Cooperative Education phase of the vocational education planning was implemented during the planning year as a test and research activity to establish a model of procedure for future years.

As a result of the student and business surveys, a pilot program was initiated in two High Schools in the office occupations area and seven students were placed with local businessmen. On the basis of this experience, expansion to three programs was planned for 1972-1973. Top people in these employment fields were contacted and asked for their cooperation in identifying and developing job skills and training stations. Students who selected vocational programs were allowed to apply for cooperative work experience.

Contacting top people was accomplished by selecting an Advisory Committee[2] and addressing civic, professional and business organizations to ask help for and gain acceptance of the cooperative plan. Identifying key people was found the fastest, most effective means to acquire information, garner instructional materials and gain the acceptance a cooperative program needs.

Identifying and developing job skills and training stations: After a potential employer (training sponsor) had agreed that cooperative education[3] was a good idea, one that could work for him as well as the student, he helped identify a variety of slots (training positions) that he would include in his training station. For example:

> A hospital provides a training station that allows the student to spend time in the following training positions: the business office, lab, emergency and medical records.
>
> An automobile dealer offers a training station that includes rotation through front-end alignment, brakes, transmissions, tune-ups, etc.
>
> A dentist provides students with an opportunity for chairside, receptionist and lab experience.

[2]See attachment D, page 4.

[3]Ibid, page 2.

The coordinator interviewed the supervisor or person who would be working with the student in each position and obtained a job description, including the primary and secondary responsibilities of the position, machines used and skills needed. The employer provided additional job information and/or training materials that are used with regular employees.

With the above information a learning activity book[4] (individualized course outline) was designed for each training station. The sponsor had an opportunity to review and add any materials that would be helpful to the student.

Students and program criteria were adopted by the Advisory Committee to assure pre-requisite basic knowledge and skills criteria that would lead to an effectively successful program.[5] As a final process in the placement of a student the training sponsor interviewed, tested and selected the student desired for his training station.

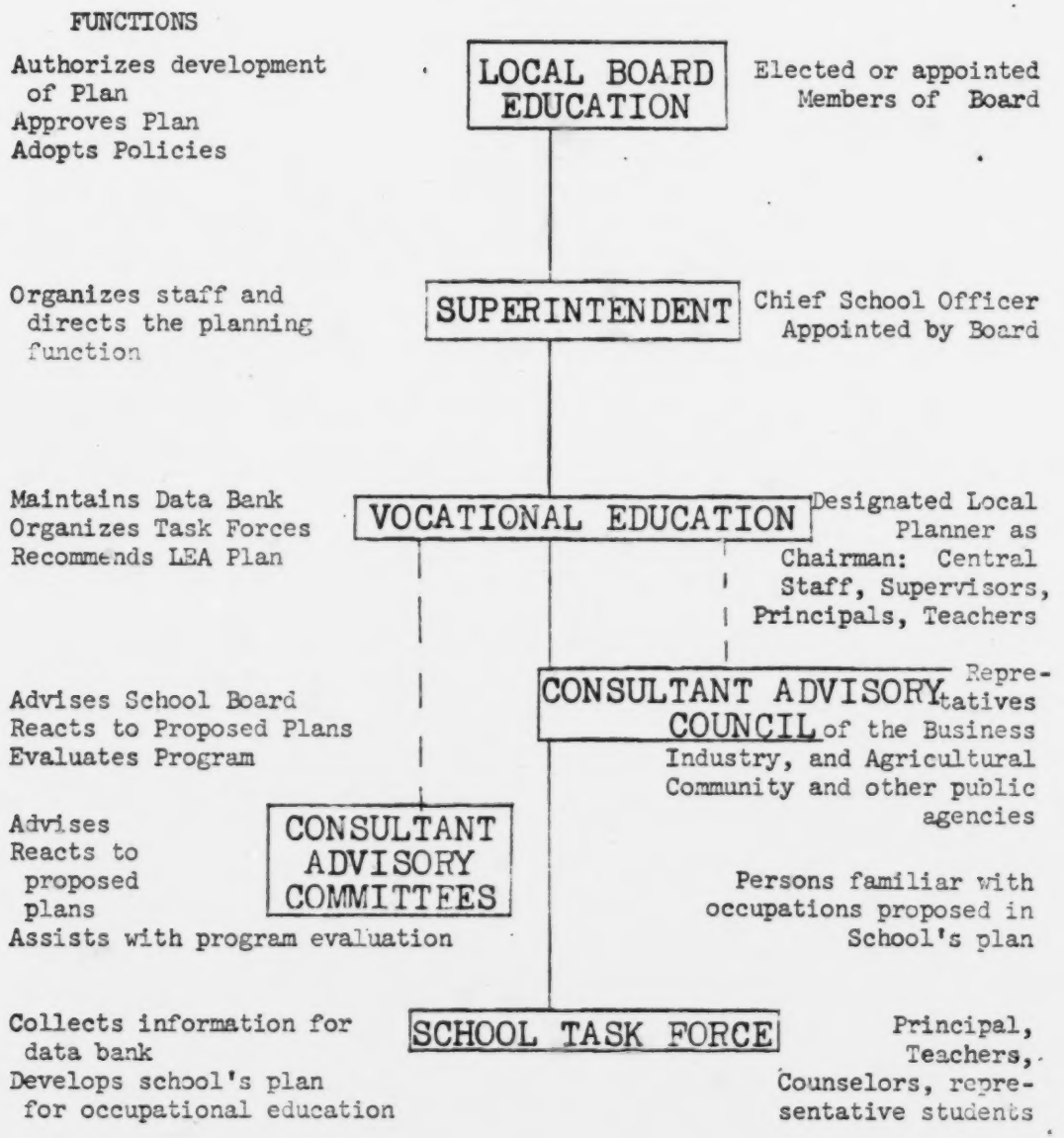
Evaluation and updating of the program is a continual process accomplished by (1) reviewing student weekly reports and employer evaluation of the students; (2) conferences with the employers, teachers and students; (3) follow-up on the percentage of students employed in their field of training or retained by their training sponsor upon graduation.

Recommendations for Vocational Education implementation were made to the advisory committee with the support of the administration, and clearance was given to begin implementation in the fall of 1972.(See Part 3 & 5)

Details of the activities, data collected and findings are incorporated in the sections which follow.

[4]See attachment D, page 2.
[5]Ibid

ORGANIZATION FOR LOCAL PLANNING OF VOCATIONAL EDUCATION PROGRAMS MANCHESTER, N.H.


FUNCTIONS
Authorizes development of Plan
Approves Plan
Adopts Policies
LOCAL BOARD EDUCATION
Elected or appointed Members of Board
Organizes staff and directs the planning function
SUPERINTENDENT
Chief School Officer Appointed by Board
Maintains Data Bank
Organizes Task Forces
Recommends LEA Plan
VOCATIONAL EDUCATION
Designated Local Planner as Chairman: Central Staff, Supervisors, Principals, Teachers
Advises School Board
Reacts to Proposed Plans
Evaluates Program
CONSULTANT ADVISORY COUNCIL
Representatives of the Business Industry, and Agricultural Community and other public agencies
Advises
Reacts to proposed plans
Assists with program evaluation
CONSULTANT ADVISORY COMMITTEES
Persons familiar with occupations proposed in School's plan
Collects information for data bank
Develops school's plan for occupational education
SCHOOL TASK FORCE
Principal, Teachers, Counselors, representative students

Period Ending: August 30, 1972

Acct. # 71-06

ACCOUNT DESCRIPTION	APPROVED BUDGET	MONTHLY EXPENSES	YEAR-TO-DATE EXPENSES	BALANCE OF ACCOUNT	PAYMENTS PENDING	ESTIMATED BALANCE
Salaries - VE Director	$ 2,247.00	-----	2,247.00	-0-	-0-	-0-
Salaries - CE Coordinator	1,437.00	-----	1,437.00	-0-	-0-	-0-
Salaries - Secretary	3,308.48	-----	3,200.48	108.00	-0-	108.00
Salaries - Accounts Clerk	541.00	-----	541.00	-0-	-0-	-0-
Consultants - Survey Design	200.00	-----	200.00	-0-	-0-	-0-
Consultants - Site Studies	700.00	-----	700.00	-0-	-0-	-0-
Consultants - Curriculum Development	2,620.00	-----	2,620.00	-0-	-0-	-0-
Salaries - Teachers	3,702.44	-----	2,694.00	1,008.44	-0-	1,008.44
Travel & Subsistence-VE Director	547.56	-----	547.56	-0-	-0-	-0-
Travel & Subsistence - Consultants	380.00	-----	380.00	-0-	-0-	-0-
Supplies-Needs Survey Postage	219.45	-----	216.57	2.88	-0-	2.88
Communications-Telephone	48.39	-----	48.39	-0-	-0-	-0-
Equipment & Furniture-Miscellaneous	598.74	-----	498.74	100.00	-0-	100.00
Equipment & Furniture-Adding Machine	356.00	-----	356.00	-0-	-0-	-0-
Dissemination Printing	1,936.50	-----	1,902.82	33.68	-0-	33.68
Conferences	51.61	-----	45.00	6.61	-0-	6.61
Advisory Committee - VE	25.83	-----	-0-	25.83	-0-	25.83
Indirect Costs	1,080.00	-----	1,050.~~87~~51	29.49	-0-	29.49
TOTALS OF ACCOUNT	$20,000.00	-----	18,685.07	1,314.93	-0-	1,314.93

Cash Receivables (to date) $ 19,989.08
Expenditures (to date) - 18,685.07

PRESENT BANK BALANCE $ 1,304.01
Payments Pending - -0-
ESTIMATED BANK BALANCE $ 1,304.01

Approved Projects Funds $ 20,000.00
Payments Received - 19,989.08

Balance Due on Allocation $ 10.92

PART I

COMMUNITY DATA

PART I - COMMUNITY DATA

A - Perspective in New Hampshire [1]

New Hampshire's population growth during the sixties was the most rapid of all states in the Northeast. The actual population gain being 21.5%. Fifty per cent of this gain is attributable to "in-migration." Seven out of every ten people added to the state total by the end of the 1960-1970 decade were 5-29. Hillsborough County gained the most people during this 10 year period, the net gain per square mile being about 52 persons per square mile. Hillsborough County also had the largest increases in young people within this rang (32,700), along with large increases for other age groups, includin those under five years of age.

In 1970, about 8,100 more children under ten lived in this state than were born here during the sixties. During the same decade at least 21,350 youths age 10 to 29 moved here.

The recent lowering in birth rates caused a small drop in the number of New Hampshire children under age 5, declines occurred in all counties except Hillsborough and Rockingham.

Manchester actually lost population, while the urban areas surrounding Manchester increased by 42%.

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[1] Employment Summary for New Hampshire, Economic Analysis and Reports, William J. Roy, Economist, December 1971

Non-Agricultural Employment

The changes in New Hampshire's non-agricultural wage and salary employment over the past few decades have involved more than simple enlargement. Non-manufacturing industries have taken a much larger share of the state's workers. Factory employment has changed markedly in industrial and occupational composition with employment by durable goods' producers displacing employment in non-durable goods' plants. Government employment has not grown as rapidly in this state as it has throughout the entire nation, but the balance of the non-manufacturing sector gained almost 50 per cent between 1960 and 1970 compared to a one-third gain for the United States.

As manufacturing employment resumes its growth possible over the next year, the pace is likely to be one of very gradual acceleration until confidence in a strengthening economy is built up. A new gain in factory employment of about two per cent between 1971 and 1972 is projected. During the preceding year, manufacturing employment dropped over seven per cent. Assuming that the non-manufacturing sector maintains about the same growth rate as it did between 1970 and 1971, there should be an overall gain in non-agricultural wage and salary employment by 1972 of about 6,000 workers. Machinery and Electrical Products Employment Down Sharply from 1970 as Depressed Employment Levels Continue in Footwear and Textile Manufacturing.

Estimates of employment and employment change by industry shown in Tables 12 and 13 trace the spread of employment cutbacks through the goods

producing industries. Plant closings and layoffs eliminated 2,750 jobs in New Hampshire's leather, textile and apparel industries between 1968 and 1969..

These industries continued to retract between 1969 and 1970, but by then most other manufacturing industries and construction began to lose orders as consumer spending fell, financial controls were tightened, military and space budgets were cut, and international trade became more competitive. Preliminary estimates for the first eight months of 1971, indicate that employment has remained at the low levels reached by the end of 1970. Manufacturers of electrical products had slashed their work force by over 16 per cent (3,000 workers) compared with the first eight months of 1970, and textile employment was down more than 18 per cent (1,500 workers). Machinery manufacturing employment had to lay off many workers as the markets for machine tools, miniature ball bearings, printing equipment and other products softened.

In New Hampshire, manufacturing employment began to decline towards the end of 1968, long before it started down nationwide. Over the three year period from September 1968 to September 1971, manufacturing employment in the state was set back by 14 per cent (13,900 jobs). Nationwide, manufacturing employment stayed above prior year levels until 1970, but measured over the same 36 months its net loss was approximately six per cent.

Expansion of the state's non-manufacturing employment has out-paced proportionally the nationwide growth almost every year during the past

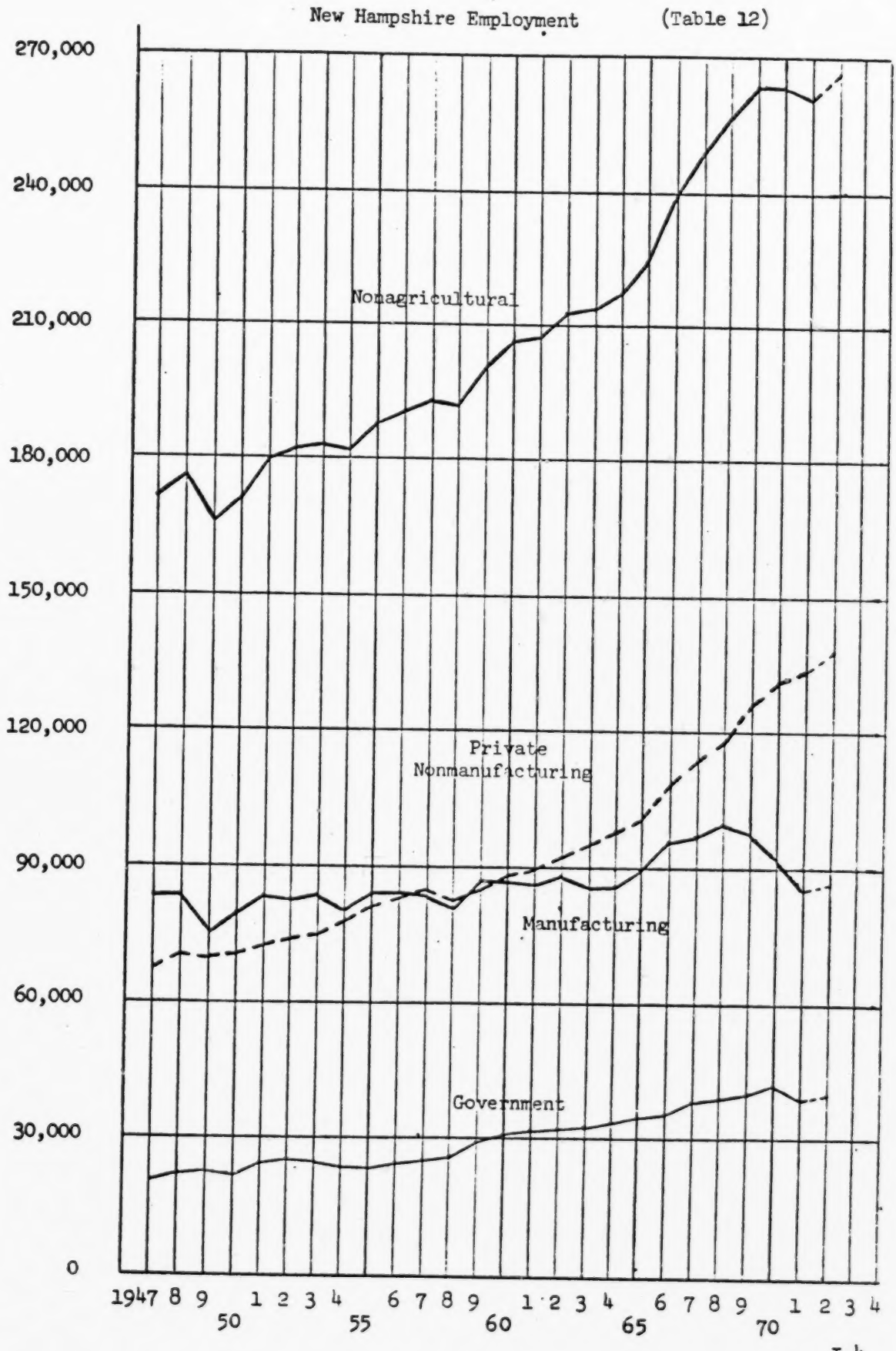
New Hampshire Employment (Table 12)
270,000
240,000
210,000
180,000
150,000
120,000
90,000
60,000
30,000
0
Nonagricultural
Private
Nonmanufacturing
Manufacturing
Government
1947 8 9 50 1 2 3 4 55 6 7 8 9 60 1 2 3 4 65 6 7 8 9 70 1 2 3 4

Table 13

Increases and Decreases in New Hampshire Employment

by Industry from 1968 to 1971

(After removing the effect of strikes)

Industry	1970 to 1971 8 months both years Number	Percent	1969 to 1970	1968 to 1969
Total nonagricultural	-4,950	- 1.9	300	6,950
Manufacturing	-8,850	- 8.4	-6,150	-1,750
Durable goods	-4,750	-10.4	-2,350	600
Lumber & wood products	- 300	- 6.2	- 500	50
Furniture & fixtures	50	2.8	- 100	50
Stone & clay products	- 100	- 6.2	- 100	- 50
Primary metal products	- 100	- 4.0	- 100	50
Fabricated metal products	100	3.0	150	200
Machinery (except elec.)	-1,150	-11.2	- 150	400
Electrical products	-3,000	-16.4	-1,350	- 200
Miscellaneous products	- 150	-10.4	- 200	- 100
Other durable	- 100	- 5.7	0	200
Nondurable goods	-4,100	- 8.5	-3,800	-2,350
Food & kindred products	- 100	- 3.0	150	- 50
Textile mill products	-1,500	-18.3	-1,050	- 400
Apparel	- 250	-10.2	- 150	- 250
Paper & allied products	- 400	- 6.2	- 350	100
Print., pub. & allied	- 50	- 1.1	150	250
Leather & lea. products	-2,050	-12.3	-2,250	-2,100
Lea. tan. & finishing	150	12.5	- 100	- 50
Footwear	-1,800	-12.7	-2,050	-2,000
Other nondurables	250	3.8	- 300	100
Nonmanufacturing	3,900	2.3	6,450	8,700
Construction (incl. min.)	- 900	- 7.0	- 750	1,250
Trans., comm. & util.	250	2.1	600	550
Trade	1,050	2.1	1,550	3,250
Fin., ins. & real estate	550	5.0	750	500
Services & other	2,000	4.4	2,900	2,050
Government	950	2.3	1,400	1,100
Federal	- 500	- 5.0	0	100
State	750	7.0	650	250
Local	700	3.5	750	750

"Other durable" includes ordnance, transportation equipment and instruments. "Other nondurable" includes chemical, petroleum and rubber and miscellaneous plastics products.

decade. Although growth rates slowed considerably in 1970 and 1971, the annual percentage gains for New Hampshire continued to be higher than corresponding U. S. rates. While New Hampshire had a 2.3 per cent gain in non-manufacturing employment for the first three quarters of 1971, the United States has a 1.6 per cent increase.

Over the past three years an estimated 18,250 more employees were added to non-factory payrolls in New Hampshire. In balance, then, between September 1968 and September 1971 there was a net gain in total non-agricultural wage and salary employment of 4,350 workers. (The net change between the annual average for 1968 and the 1971 eight-month average in Table 12 was 4,150.)

The state's trade and service industries have maintained a substantial rate of employment expansion during the recession. Net over-the-year changes, however, are much lower than in the 1968 to 1969 period. Construction activity was curbed early in the economic downturn as capital spending dried up and high mortgage rates and taxes restrained private home building. Federal government jobs dropped in number mainly because of reductions at the Protsmouth Naval Shipyard.

Manufacturing Employment Stabilizes in 1971

Monthly employment changes traced in Tables 14 and 15 reveal a more promising pattern of trends in manufacturing employment. The severe declines in both durable and nondurable goods manufacturing that characterized employment changes during 1970 were definitely terminated at the

Table 31

Average Nonagricultural Employment

in the Manchester Standard Metropolitan Statistical Area

1968 to 1971

(Excluding self-employed, domestic service workers and persons on strike)

Industry	January-September		Year averages		
	1971	1970	1970	1969	1968
Total nonagricultural	48,850	48,900	49,150	49,450	48,550
Manufacturing	16,100	16,400	16,350	17,000	17,950
Durable goods	5,200	5,100	5,100	5,350	5,250
Lumber & wood products	350	400	400	400	400
Furniture & fixtures	300	350	350	500	450
Metal prods. & machinery	400	400	400	450	500
Electrical products	3,350	3,150	3,150	3,150	3,200
Miscellaneous	800	800	800	850	700
Nondurable goods	10,900	11,300	11,250	11,650	12,700
Food & kindred products	800	900	900	1,000	1,100
Textile mill products	2,700	2,700	2,700	2,750	2,900
Apparel	1,300	1,450	1,400	1,600	1,800
Printing & publishing	900	800	800	700	550
Leather & leather products	3,850	4,250	4,250	4,650	5,400
Other nondurable	1,350	1,200	1,200	950	950
Nonmanufacturing	32,750	32,500	32,800	32,450	30,600
Construction	2,200	2,250	2,300	2,650	2,550
Trans., comm. & utilities	3,600	3,550	3,550	3,400	2,950
Trade	11,200	11,300	11,450	11,600	10,900
Fin., ins. & real estate	3,300	3,150	3,150	3,000	2,800
Services & miscellaneous	8,300	8,100	8,150	7,950	7,550
Government	4,150	4,150	4,200	3,850	3,850

beginning of 1971, and except for lost time during vacation shutdowns, employment was comparatively stable through September 1971.

The state's two largest manufacturing industries (electrical and leather products) made additional employment reductions during the first three quarters of 1971, but most of the large scale reductions that appear between eight-month averages for 1970 and 1971 (Tables 12 and 13) occurred in 1970. By September of 1971, employment in five of the sixteen major manufacturing industries was equal to or above corresponding estimates for the previous year. Several others appeared likely to gain over 1970 employment estimates during the final quarter of 1971.

Summer jobs constitute a significant portion of New Hampshire's non-manufacturing employment. The seasonal buildup during July and August of 1970 and 1971 was less dynamic than during the late sixties especially with the reduction in construction employment. Obviously, the vitality of this sector is partially related to manufacturing activity, but other factors also apply -- particularly the continuing infusion of income from out-of-staters wanting to live and play in New Hampshire.

B - Perspective in Manchester[2]

Manchester Will Be Far More Prosperous in 1980

In 1958, the average wage in the five-county Region was about $3,400. By 1966 it has risen to more than $4,200 in terms of what those dollars bought in 1958 (i.e., in "constant 1958 dollars"), and by 1980 Figure 4 indicates the average wage per worker will rise to almost 6,000 of these dollars. In effect, this projection means that the average worker will

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[2] New Hampshire Occupations in 1980, New Hampshire Department of Employment Security, December 1971

be able to buy about 35% more in 1980 than he could in 1966. This -- together with the population increase discussed above -- means that there will be a substantial increase in the amount of money earned and spent in the Region: in fact, it is expected that for every $100 earned in the Southeastern New Hampshire Region today, $200 will be earned in 1980.

Basically, therefore, the picture is one of incomes growing, and growing at a rapid pace. For nearly twenty-five years, average personal income in the five-county Region has been lower than the national average (although it has been somewhat higher than the average for the rest of New Hampshire). Figure 5 shows that the New Hampshire average has been catching up with that of the nation.

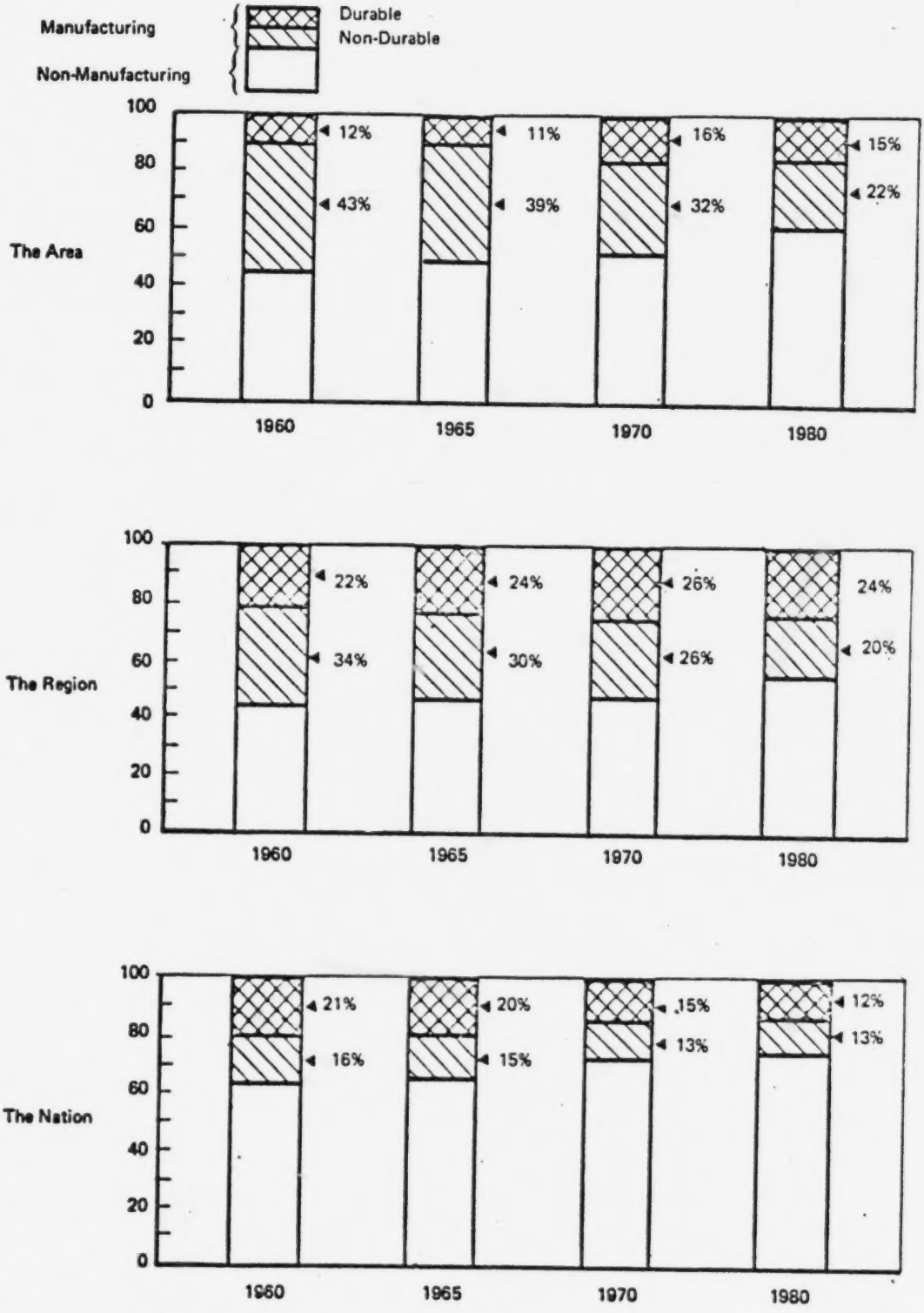
The Industrial Structure Of Manchester Will Undergo Important Change

Traditionally, a large proportion of the labor force in the Manchester Area and the five-county Region has been employed in manufacturing industries. In 1960, for example, more than half the labor force of both the Area and the Region worked in manufacturing jobs, while slightly more than one-third of the nations's labor force worked in such jobs. However, the national trend toward higher labor productivity (i.e., toward producing more with fewer people) is also the trend in Southeastern New Hampshire. Over the next fifteen years, therefore, the proportion of the labor force that will be employed in non-manufacturing jobs can be expected to increase substantially. Figure 6 shows that this increase will be particularly pronounced in the Manchester Area and the five-county Region, with the result that employment in both the Area and the Region will converge somewhat toward the national norm.

Table 3 shows that much of the increase in non-manufacturing employment will be found in retail and wholesale trade, building construction and services. In contrast, the number of people employed by the telephone company, the gas company, the electric company, can be expected to be a samller proportion of the total labor force. These companies are likely to become even more efficient than they now are and tend to experience only a modest increase in their payrolls when the demand for their services is greatly increased.

It is of particular interest that the proportion of the labor force holding jobs in financial, insurance, and real estate companies is expected to increase by approximately 50% in both the Manchester Area and in the larger Region. Since Manchester might be expected to serve as a financial center for the entire Region, it would be reasonable to suppose that employment opportunities in financial institutions would grow much more rapidly in the Manchester Area than in the Region. The forecast takes a pessimistic view of the possibility and is based upon Manchester's failure to develop in this way in the recent past.

Of course, in 1980 the economies of the Area and the Region will still be heavily dependent on manufacturing, but there will be a significant change in its nature. In the past, industries that made non-durable goods (e.g., textiles, shoes, clothes, etc.) have dominated Manchester's economic life; and some companies involved in "non-durables" manufacturing will prosper in the future. However, the major component of Manchester's future manufacturing growth will be in durable goods (e.g., electrical and electronic machinery, metal products, instruments, etc.).



Source: New Hampshire Department of Employment Security and Arthur D. Little, Inc.

FIGURE 6 PERCENT DISTRIBUTION OF EMPLOYMENT

C - Regional Occupational Outlook -- Fiscal Year 1976[3]

Almost 84,000 new workers will be needed to meet expansion and replacement needs in New Hampshire over the next five years. More than 60 per cent of this manpower need will occur in white collar occupations. New Hampshire has followed the national shift away from blue collar and farm occupations to white collar and service jobs. But the State still has a smaller proportion of white collar workers than the Nation (42 compared to 48 percent).

Shortage Occupations

The following are those occupations where demand should generally exceed the number of qualified applicants and annual worker needs total at least 50 workers (excluding openings occurring from transfers between jobs):

Electrical engineers

Professional nurses

Technicians, medical & dental; engineering & scientific

Teachers

Accountants and auditors

Stenographers & secretaries

Accounting & bookkeeping clerks

Carpenters

Electricians

Plumbers

Police & other law enforcement officials

Cooks

Hospital attendants

Licensed Practical nurses

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[3]Occupational Outlook, New Hampshire Department of Security, December, 1971

Projected Expansion and Replacement Needs for Workers in New Hampshire

Fiscal Year 1971 to 1976

Item	FY 1971	FY 1976	Expansion Needs			Replacement needs	Total 5 yr. needs
			Total	Ave. per yr.	% of FY 71		
Total employment	291,100	330,700	39,600	7,920	2.7	44,000	83,600
White Collar	122,600	142,900	20,300	4,060	3.3	20,100	40,400
Professional-tech.	37,500	44,500	7,000	1,400	3.7	5,900	12,900
Manager-officials	22,800	26,100	3,300	660	2.9	3,400	6,700
Clerical	42,500	49,300	6,800	1,360	3.2	7,800	14,600
Sales	19,800	23,000	3,200	640	3.2	3,000	6,200
Blue Collar	128,600	142,300	13,700	2,740	2.1	16,100	29,800
Craftsmen & foremen	42,400	49,600	7,200	1,440	3.4	4,700	11,900
Operatives	77,600	83,550	5,950	1,190	1.5	10,300	16,250
Laborers	8,600	9,150	550	110	1.3	1,100	1,650
Service workers	36,700	42,600	5,900	1,180	3.2	7,300	13,200
Farmers & farm workers	3,200	2,900	- 300	- 60	-1.9	500	200

Employed Persons by Major Occupation Group
New Hampshire and United States, 1960 and 1970
(Percentage distribution)

Item	1970		1960	
	N.H. (FY 1971)	U.S. (1) (1970)	N.H.	U.S.
Total, Employed Persons	100.0	100.0	100.0	100.0
White-Collar Workers	42.1	48.3	38.5	43.4
Professional and technical	12.9	14.2	10.8	11.3
Managers and officials	7.8	10.5	8.0	10.8
Clerical workers	14.5	17.4	13.0	14.9
Sales workers	6.8	6.2	6.7	6.4
Blue-Collar Workers	44.2	35.3	48.7	36.6
Craftsmen and foremen	14.7	12.9	15.2	13.0
Operatives	26.7	17.7	29.1	18.2
Nonfarm laborers	2.9	4.7	4.4	5.4
Service Workers	12.6	12.4	10.1	12.2
Farm Workers	1.1	4.0	2.7	7.8

'1) U.S. Dept. of Labor. "Employment & Earnings" Jan. 1971, Table A-17

OCCUPATIONAL OUTLOOK SUMMARY

New Hampshire, Fiscal Year 1971 to 1976

Occupation	Estimated employment FY 1971	Annual openings to F.Y. 1976 (expansion and replacements)	Employment prospects
Professional-Technical			
Engineers	3,470	225	Improving opportunities, especially in electrical, mechanical, industrial and civil technologies.
Natural Scientists	370	35	Limited by relatively small scale of research programs in this State. Most of the scientists are chemists.
Draftsmen	750	40	Improving opportunities for experienced workers. Competition for entry jobs.
Dentists	400	30	Very good opportunities.
Nurses, professional	4,700	305	Persistent shortage
Physicians, surgeons	935	45	Shortage to persist despite use of more sub-professional specialists and new techniques.
Technicians, medical & dental	895	65	Expanding opportunities as physician increasingly depend on laboratory tests for routine as well as serious cases.
Teachers	10,600	815	Population growth and improving economic conditions should erase current oversupply in some areas.
Accountants and auditors	1,600	90	Excellent opportunities especially for college graduates. Commercial school graduates also in demand.
Clergymen	1,055	35	Trend toward oversupply in Protestant denominations.
Editors & reporters	475	30	Competitive. Talented writers in demand. May have to start on part-time basis.
Librarians	650	45	Excellent prospects for library science graduates.
sonnel & public relations workers	450	30	Gradual expansion in number of jobs with growth in State's economy.
Social & welfare workers	550	35	Persistent and growing demand for trained workers especially with advanced degrees in the field.

Occupation	Employment FY 1971	Ave. annual openings	Employment prospects
Managerial, Clerical & Sales			
Purchasing agents	620	35	Mild expansion. Especial demand for business administration graduates with purchasing or engineering training.
Stenographers, typists & secretaries	8,950	675	Good demand for capable workers despite large supply of entry workers.
Office machine operators	1,560	165	Rapid increase in new jobs anticipated. (Category includes key punch and tabulating machine operators.)
Accounting & bookkeeping clerks	4,090	290	Demand will continue to outpace impact of office machines. Many record keeping tasks coordinated with computer processing.
Bank tellers	1,360	130	Fast employment growth combined with high replacement need. Increasing proportion will be on part-time basis for peak hours.
Cashiers	2,580	210	Many part-time and seasonal jobs for box-office and check-out cashiers.
Mail carriers and postal clerks	1,900	100	Mild job increases developing from population growth modified by changes in Postal Service organization.
Shipping, receiving clerks	1,300	50	Employment growth slowed by introduction of more material handling equipment.
Telephone operators	1,850	110	Most of the need for additional telephone operations will occur at larger stores, plants and office buildings.
Sales workers	19,800	1,240	Abundant opportunities for salesmen capable of working on their own. Many full and part-time jobs for sales clerks.
Craftsmen, Foremen & Kindred Workers			
Carpenters	3,700	175	Rise in construction activity will not be accompanied by as rapid a gain in jobs for carpenters because of new building methods.

Occupation	Employment FY 1971	Ave. annual openings	Employment prospects
Electricians	1,320	90	Fairly rapid growth in jobs for electricians to meet needs of expanding population and industry.
cavating, grading machine operators	900	85	Increasing demand resulting from more frequent utilization of machinery on both large and small projects.
Painters & paperhangers	1,300	60	Moderate increase in jobs as construction activity intensifies. Others needed in maintenance.
Plumbers & pipefitters	1,670	110	As rapid growth as apprenticeship programs permit.
Structural metal workers	720	35	Jobs expected to become more plentiful as metals are used in more facets of residential as well as industrial construction.
Foremen	6,750	395	Moderate increase. Construction, utilities and some other service producing industries to add jobs more rapidly than manufacturing.
Machinists & related occupations	3,120	120	Slow employment growth. Most openings result from replacement needs.
Tool & die makers	700	30	Gradual increase. Long range advancement prospects for metal working industries partially offset by changes in technology.
Automobile mechanics	3,850	190	Moderate increase. Auto population will continue to grow. But it's difficult to predict service needs for new generation of passenger vehicles emphasizing compactness, safety, durability, pollution control and economy.
Crane, derrick & hoist men	350	30	Growth rate coupled basically with anticipated buildup in construction activity.
Operatives			
Drivers: truck, bus & tractor	7,850	340	Escalation of business and industrial activity will require more local and long distance truck traffic. Supply of drivers generally adequate.
Deliverymen and routemen	2,350	120	Generally slow growth varying between localities according to proximity of shopping centers and appeal of home delivery services.
Welders & flame cutters	1,350	110	Increasing demand due to favorable outlook for metal goods manufacturer and construction.

Occupation	Employment FY 1971	Ave. annual openings	Employment prospects
Assemblers, metalwrk.	4,200	240	Technological developments to slow manpower requirements.
Machine tool operators	1,250	40	Replacement needs predominate as multiple-operation and numerically controlled machine tools shift tasks and skill requirements.
Sewers and stitchers	5,300	220	Small increase in new jobs but large number of replacement workers needed. Automation is not expected to displace many workers during 70's.
Gasoline service station attendants	1,380	80	Moderate increase. Many more job opportunities than annual need estimates indicate because of numerous part-time jobs and frequent transfers to other occupations.
Laundry, dry cleaning occ.	1,350	55	Additional workers needed primarily for replacement.
Service Workers			
Private household workers	4,720	435	Large number of openings for both live-in and day workers.
Firefighters	1,100	40	Population growth forcing municipalities to upgrade fire protection services.
Guards, watchmen	1,200	90	Moderate increase as both goods and service producing establishments build protection against upturn in vandalism and shop-lifting.
Police & other law enforcement officials	1,350	90	Good opportunities for applicants with right aptitudes and personalities as state and local authorities seek improvements in strength and effectiveness of police forces.
Cooks and chefs	4,040	260	Many excellent opportunities for skilled workers. Beginning jobs often require split shift or late hours. Seasonal job changes are common for workers in this State's recreational areas.
Counter & fountain work.	1,500	90	Moderate increase. Many seasonal jobs.
Waiters & waitresses	5,400	420	Continued high growth rate in year-round and seasonal jobs.

Occupation	Employment FY 1971	Ave. annual openings	Employment prospects
Hospital attendants	3,540	220	Steady growth in need for workers at hospitals, nursing homes and other long-term care facilities.
Building custodians, cleaners	3,550	225	Many job openings developing primarily from high retirement and transfer rate
Nurses, practical	1,600	130	Expanding opportunities as licensed practical nurses are utilized more commonly in the nursing field.

Average Nonagricultural Wage and Salary Employment in New Hampshire 1960 to 1970

Industry	1960	1961	1962	1963	1964	1965	1966	1967	1968	1969	1970
Total nonagricultural	205.6	206.8	212.7	213.3	216.9	224.5	239.0	248.2	256.1	263.4	263.3
Manufacturing	87.0	85.9	88.6	85.9	85.6	89.8	96.0	97.6	99.7	97.9	92.1
Durable goods	35.7	35.1	36.7	35.6	36.4	38.6	43.4	45.8	46.4	46.9	44.4
Lumber & wood pds.	6.2	5.6	5.4	5.3	5.4	5.4	5.3	5.2	5.3	5.3	4.8
Furniture & fixt.	1.8	1.7	1.8	1.9	1.8	2.0	2.0	1.8	1.8	1.9	1.8
Stone & clay pds.	1.6	1.5	1.5	1.5	1.5	1.6	1.6	1.7	1.7	1.7	1.5
Primary metal pds.	1.9	1.7	1.8	1.8	1.9	2.2	2.6	2.8	2.6	2.6	2.5
Fabricated met. pds.	1.9	1.9	2.0	2.0	2.2	2.4	2.7	2.8	3.0	3.2	3.3
Mach. (exc. elec.)	9.1	9.0	9.2	8.3	8.6	9.4	10.4	10.0	9.6	10.0	10.1
Electrical pds.	10.5	11.2	12.2	12.0	12.3	12.7	15.9	18.1	19.1	18.9	17.3
Miscellaneous pds.	2.0	1.8	1.9	1.9	1.9	2.1	1.9	2.0	1.8	1.6	1.4
Other durable	.7	.7	.8	.9	.8	.8	1.0	1.4	1.5	1.7	1.7
Nondurable goods	51.3	50.8	51.8	50.3	49.2	51.2	52.6	51.8	53.3	51.0	47.7
Food & kind. pds.	2.9	3.0	3.0	3.0	3.0	3.0	3.0	3.1	3.2	3.2	3.3
Textile mill pds.	12.1	11.7	11.6	10.6	9.4	9.9	9.8	9.0	9.2	8.8	7.8
Apparel	2.3	2.4	2.6	2.4	2.9	2.9	3.2	3.0	2.8	2.6	2.5
Paper & allied pds.	6.9	6.6	6.6	6.2	6.0	6.1	6.1	6.2	6.5	6.6	6.4
Print.,pub. & allied	3.3	3.4	3.6	3.7	3.7	3.7	3.9	4.1	4.2	4.4	4.6
Leather & lea. pds.	21.1	20.8	21.2	20.7	19.9	20.5	21.1	20.4	20.6	18.5	16.5
Other nondurable	2.7	2.9	3.2	3.7	4.3	4.1	5.5	6.0	6.8	6.9	6.6
Nonmanufacturing	118.6	120.9	124.1	127.4	131.3	134.7	143.0	150.6	156.4	165.5	171.2
Construc.(Inc.min.)	10.1	9.9	10.1	9.8	9.9	10.4	11.7	12.0	12.3	13.6	13.1
Trans., comm. & util.	9.7	9.6	9.5	9.6	9.6	9.6	9.8	10.2	10.2	11.1	11.7
Trade	34.2	34.5	35.9	37.2	38.2	39.0	41.5	43.3	45.6	48.8	50.5
Fin., ins. & r.e.	7.2	7.3	7.5	7.8	8.2	8.4	8.8	9.2	9.9	10.4	11.1
Services & other	26.9	28.3	29.3	30.5	32.3	33.5	36.0	38.3	39.8	41.9	44.0
Government	30.5	31.3	31.8	32.5	33.1	33.8	35.2	37.6	38.6	39.7	40.8
Federal	9.2	9.3	9.3	9.4	9.1	8.8	9.2	10.0	9.8	9.9	9.8
State	7.3	7.4	7.5	7.5	7.8	8.3	8.8	9.6	10.1	10.4	10.9
Local	14.0	14.6	15.0	15.6	16.2	16.7	17.2	18.0	18.7	19.4	20.1

Workers on strike not included.

1970 Population in New Hampshire

Local Office, Job Center, and County Areas

Area	1970 Population (Census)	Percent change from 1960
Berlin Local Office	36,752	- 04.5
Berlin Job Center	19,840	- 11.5
Colebrook J.C.	4,479	- 2.6
Conway J.C.	8,614	14.5
Northumberland J.C.	3,819	- 3.1
Claremont Local Office	59,065	12.3
Claremont J.C.	20,268	8.6
Lebanon-Hanover J.C.	25,536	12.9
Newport J.C.	13,261	17.4
Concord Local Office	79,281	19.4
Concord-Pembroke JC.	49,770	15.8
Franklin J.C.	9,469	11.3
Hillsborough J.C.	11,150	38.6
Pittsfield J.C.	8,892	30.0
Dover Local Office	77,205	17.5
Dover-Somersworth J.C.	50,224	19.2
Farmington-Milton J.C.	8,078	17.1
Rochester J.C.	18,903	13.5
Keene Local Office	58,274	22.3
Keene J.C.	30,280	19.8
Hinsdale-Winchester J.C.	6,432	31.5
Jaffrey J.C.	6,365	33.2
Marlboro-Troy J.C.	4,746	18.0
Peterborough J.C.	5,910	37.4
Walpole J.C.	4,541	13.0
Laconia Local Office	54,975	15.1
Laconia Job Center	23,257	9.4
Bristol J.C.	4,323	17.4
Meredith J.C.	5,420	23.0
Plymouth J.C.	9,841	20.6
Tilton J.C.	5,794	21.3
Wolfeboro J.C.	6,340	15.9
Littleton Local Office	24,125	5.2
Littleton-Lincoln J.C.	12,534	9.7
Haverhill J.C.	5,438	1.9
Lancaster J.C.	6,153	-0.5
Manchester Local Office	160,327	22.4
Manchester J.C.	118,737	8.1
Derry-Salem J.C.	41,590	97.8
Nashua Local Office	105,211	55.9
Nashua J.C.	84,497	59.4
Greenville J.C.	4,349	22.5
Milford J.C.	16,365	50.0
Portsmouth Local Office	82,466	23.2
Portsmouth J.C.	33,357	0.4
Exeter-Epping J.C.	17,661	25.8
Hampton J.C.	15,577	50.0
Plaistow J.C.	15,871	71.5

COUNTY

New Hampshire	737,681	21.5
Belknap	32,367	12.0
Carroll	18,548	17.2
Cheshire	52,364	20.8
Coos	34,291	- 7.7
Grafton	54,914	12.4
Hillsborough	223,941	25.7
Merrimack	80,925	19.4
Rockingham	138,951	40.3
Strafford	70,431	17.8
Sullivan	30,949	10.3

D - Definition of Vocational-Technical Education[4]

Vocational education is a specialized type of training for entry into a specific occupation. In the sense that courses lead directly to employment at the level of an advanced apprentice rather than to further formal education, the courses are considered "terminal". Although, as indicated in a recent study, some vocational education students go on to college, the purpose of these courses at the high school level is distinctly not college preparatory. Some vocational courses may prepare for the 13th and 14th year advanced technical training. The primary purpose is to prepare persons for effective entry into employment and to upgrade those already employed. Labeling vocational courses as terminal in purpose does not preclude the need and expectation for graduates to study new methods continuously as the need arises for change in operational skills. In a few years, some will need to learn a second occupation.

Some students view mathematics, science, and communications as pure book learning in which they have little interest. The vocational school attempts to use manipulative experiences as a means of stimulating interest in the "how" and "why" . The school believes this will motivate students to seek and learn the mathematical and scientific knowledge and the means of effective communication to solve problems in a meaningful manner and to communicate results. Research demonstrates that to insist that a pupil finish a conventional high school academic program before entering a trade or vocational school is to create both larger proportions of school dropouts and groups of youth with poor attitudes, lack of interest and wasted time.

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[4] Guide for Planning the Construction of School Buildings, State Department of Education, Concord, New Hampshire, 1971.

It is common knowledge today that in most professional fields, with engineering and health science in the forefront, there is need for several technicians for every professional. The preparation of technicians in conjunction with industry is necessary to meet the needs of an ever expanding industry.

Objectives for this type of education have been stated as follows:

> To make clear to the pupils the opportunities that exist for junior workers in the various technical fields.
>
> To give the pupil training in the more easily mastered fundamental theories and practices of the technical occupations which he desires to follow.
>
> To give the pupil a thorough preparation in the pure and applied mathematics and sciences which a junior worker in a special technical field must obtain.
>
> To give the pupil a good general knowledge of the tools, materials, processes and methods used in the practical operation, construction or productive work to which the special technical service relates.
>
> To give the pupil knowledge of modern technical methods in solving the problems in some one technical field.

The field of vocational education is undergoing constant evolutionary change. Formerly accorded stepchild treatment in the planning of school facilities, vocational education today is recognized as one of the prime responsibilities of a public system of education. In view of the fact that about 50 per cent of present day high school students do not continue their education beyond the twelfth grade, there has been a growing awareness that the needs of these students would be better met by providing them with an opportunity not only for the acquisition of academic knowledge in intellectual disciplines, but also for training in specific job skills which

would enable them to perform satisfactorily in the occupation of their choice.

Shop Areas

At present the general shop is most commonly found in New Hampshire's secondary schools; a more complete vocational training program can include such specialized offerings as machine shop, electronics, metals, power mechanics, printing and woodwork. These spaces should make provision not only for action learning, but also for reaction and interaction learning. General classrooms and areas for small and large group discussions are as necessary in vocational education as in the general academic program. Flexibility and adaptability should be incorporated in the initial design of the shop area, especially since considerable cost and inconvenience may be involved in changing the physical arrangement of the shop spaces to provide for future changes in the program.

Business Education and Office Occupations

Vocational business education prepares the student for a variety of office procedures -- typing, stenography, accounting, data processing, communications, general clerical work, etc. Marketing-management retailing also comes under business education.

Occupational Home Economics

The prupose of this program is to provide training in the skills necessary for a career in Child Care Services, Food Services, and Hotel-Motel fields. The program will be most effective and relevant if planned on the

basis of local employment opportunities. The results of the analysis will largely determine the types of facilities and equipment required.

PART II

BUSINESS AND EDUCATION DATA

DATA COLLECTION

A - Business Needs Survey[1]

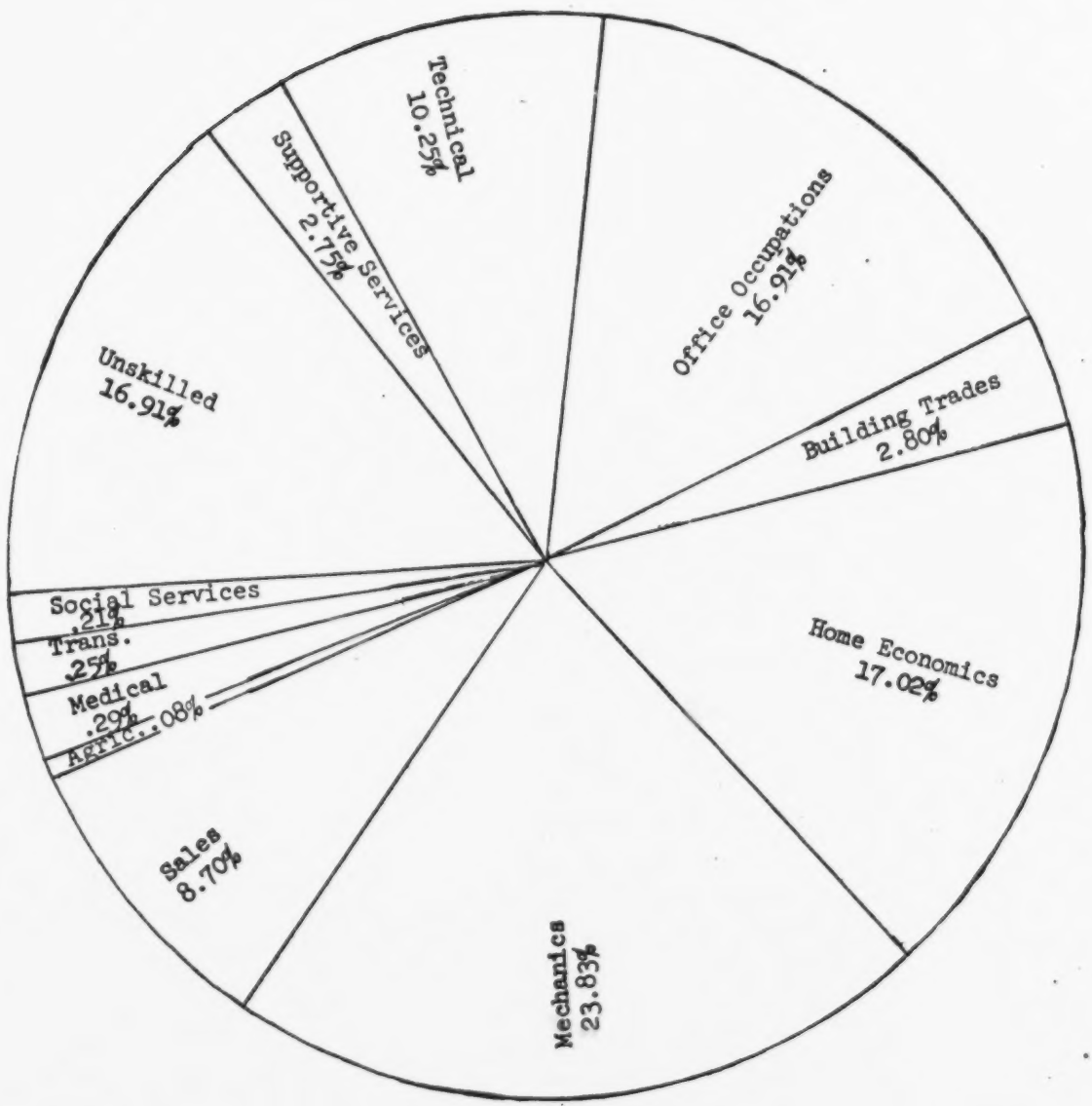
Total Businesses Contacted	600
Responded (36 of which were single proprietorships)	151

Cluster	# Job Titles	# Jobs Reported	Percentage
Building Trades	7	145	2.80
Mechanics	20	1232	23.83
Office Occupations	20	874	16.91
Technical	9	530	10.25
Agriculture	1	4	.08
Home Economics	6	880	17.02
Medical	1	15	.29
Sales	8	450	8.70
Social Services	1	11	.21
Supportive Services	3	142	2.75
Transportation	1	13	.25
Unskilled	1	874	16.91
Totals	78	5170	100.00

[1]See Attachment A

BUSINESS NEEDS SURVEY

Percent of Total Needs Responses



BUSINESS NEEDS SURVEY

Breakdown of Jobs Within Clusters

Building Trades	**145**
Installer	93
Plumbers	19
Mechanics	18
Painter	6
Carpenter	5
Electrician	3
Estimator	1
Mechanics	**1232**
Electronics	330
Leather Workers	330
Assembler	197
Machinist	88
Mechanic	54
Serviceman	45
Punch Press Operator	35
Inspector	34
Draftsman	25
Group Planner	22
Welders	18
Press S/U Non A	12
Helper	12
Die Maker	10
Glazier	9
Power Shear Operator	4
Road Man	4
Filters	1
Fork Lift Operators	1
Small Brake Operators	1
Agriculture	**4**
Agriculture	4

Office Occupations	**874**
Secretary	262
Clerical	215
Teller	83
Clk. Typist	73
Shipper Receiver	56
Key Punch Op.	48
Bookkeeper	41
Accountant	18
Switchboard Op.	14
Loan Interviewer	13
Machine Operator	13
Stenographer	10
Computer Operator	8
Purchasing	7
Traffic Clk.	4
Claims Adjustor	3
Receptionist	3
Controller	1
Medical Records	1
Insurance Claims	1
Technical	**530**
Leather Workers	362
Technicians	138
Engineering Assist.	8
Computer Operator	7
Engineers	4
Programmer	4
Appraisers	3
Clerk of Works	3
Designers	1
Medical	**15**
Health	15

Home Economics	880
Textiles	708
Food Service	116
Clothing	32
Barbers	18
Sales	4
Cleaning & Linen	2
Social Services	11
Teachers	11
Supportive Services	142
Truck Driver	70
Maintenance Man	69
Helpers	3
Sales	450
Salesmen	282
Management	135
Cashier	12
Drivers	7
Collectors	5
Store Clerk	5
Unskilled	3
Traffic	1
Transportation	13
Trailer Driver	13
Unskilled	874
Unskilled	874

B - Student Survey[2]

Total Number Students Reporting 7120

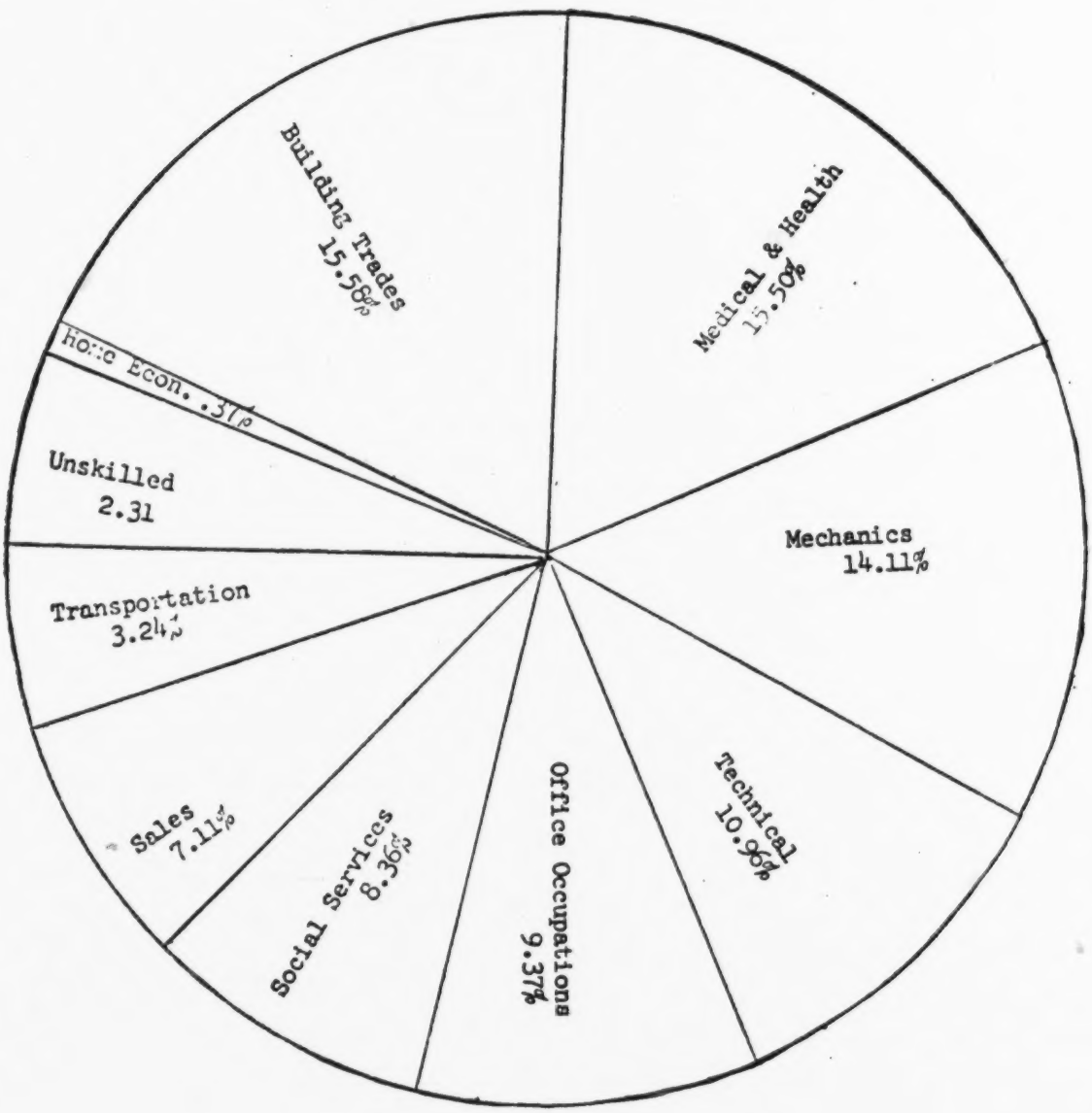
Cluster	# Job Titles	#Students Reported	Percentage
Building Trades	21	1109	15.58
Mechanics	30	1005	14.11
Office Occupations	25	667	9.37
Technical	31	781	10.96
Agriculture	16	447	6.28
Home Economics	33	26	.37
Medical & Health	21	1103	15.50
Sales	25	506	7.11
Sciences	3	195	2.74
Social Services	25	595	8.36
Transportation	11	231	3.24
Unskilled	21	165	2.31
Other	29	290	4.07
Totals	291	7120	100.00

[2]See Attachment B

STUDENT SURVEY

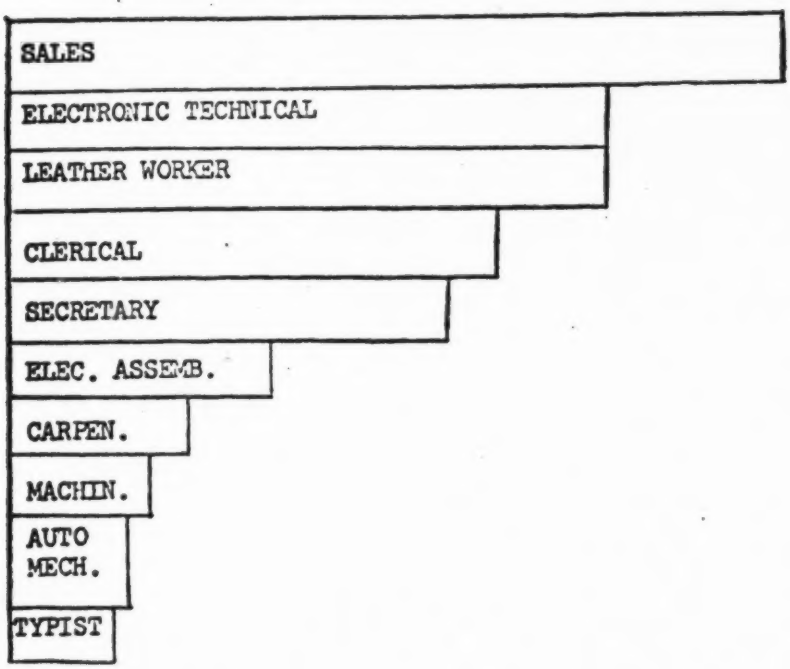
7120 Students Reporting

Percent of student interest among total responses



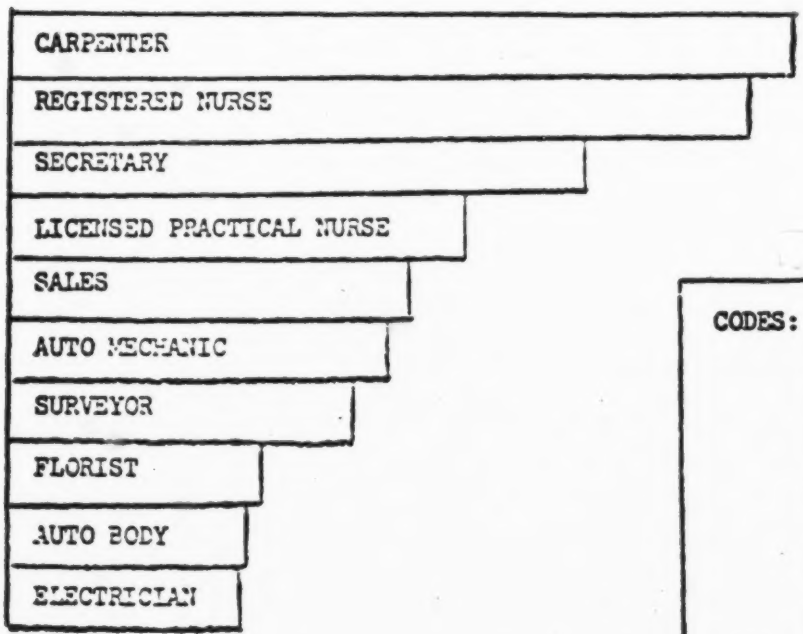
BUSINESS SURVEY:

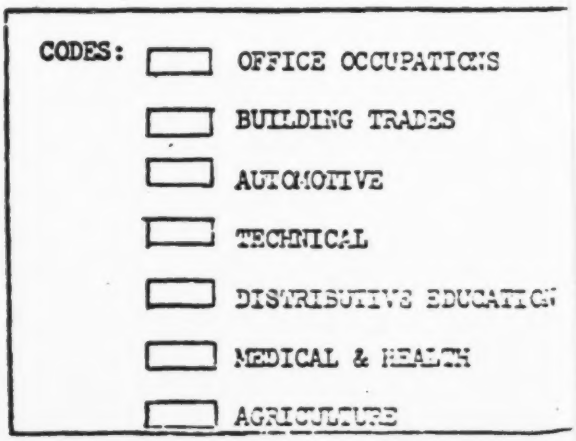
Relative number of positions listed by employers.



STUDENT SCHOOLS SURVEY:

Relative number of career fields listed by students.





C - Space Needs Survey

Section 1 - Facilities data

Present Facilities Analysis

		Square Ft. Area	Students
I	Home Economics	10,440	828
	Central	4,140	354
	Memorial	3,660	359
	West	2,640	115
II	Industrial Arts	30,974	1,369
	Central	11,254	372
	Memorial	8,960	562
	West	10,760	435
III	Business	17,555	3,115
	Central	5,566	781
	Memorial	6,433	1,385
	West	5,556	949
Prevocational Totals		58,969	5,312

PRESENT PRE-VOC FACILITIES MANCHESTER

Department	Total Square Feet			Periods Avail. for VE					Students				
	Area	Room		Total	1	2	3	4	Total	1	2	3	4
BUSINESS	17,555			130					3115			1714	
Central	5,566			39					781			341	
		300	616	6	2	4				152	288	190	151
		301	616	5		4	1						
		303	616	5	1	3		1					
		304	1254	5			2	3					
		305	616	5		2	1	2					
		306	616	5	1		3	1					
		307	616	3			2	1					
		308	616	5	5								
Memorial	6,433			50					1385			810	
		101	941	6	1		5			192	383	601	209
		102	426	6				6					
		103	959	7		4	3						
		104	959	7½		6	½	1					
		105	817	5	3			2					
		106	959	7½		5	2½						
		107	520	5	2		3						
		108	852	6			4	2					
West	5,556			41					949			563	
		111	660	6	4			2		166	220	226	237
		114	720	6			6						
		115	672	4				4					
		132	864	7	2	3		2					
		133	1008	7		3	1	3					
		134	864	6		4	2						
		135	768	5			5						
		230	(Other Area)										

Present Pre-Voc Facilities Manchester
1/20/72

Department	Total Square Feet Area	Room		Periods Avail. for VE Total	1	2	3	4	Students Total	1	2	3	4
HOME ECONOMIC	10,440			51					828			345	
Central	4,140			24					354			170	
		B1	1050	7	4		3						
		B2	990	6	3		3			121	63	164	6
		B4	1050	5		4		1					
		B5	1050	6	2		4						
Memorial	3,660			18					359			132	
		201	378	(Family Room)									
		202	1032	7	5	1		1		177	50	58	74
		203	1053	6	3	2	1						
		205	405	2			2						
		206	792	3				3					
West	2,640			9					115			43	
		010	1872	5	3		2			59	13	28	15
		023	768	4	2	1		1					

Present Pre-Voc. Facilities Manchester
1/20/72

Department	Total Square Feet Area	Room		Periods Avail. for VE Total	1	2	3	4	Students Total	1	2	3	4
INDUSTRIAL ARTS	30,974			92					1369			507	
Central	11,254			36					372			132	
		T1	1428	6	2	2	2			120	120		132
		T2	2496	6	2	2	2						
		T3	2052	6	2	2	2						
		T4	2064	6	2	2	2						
		T5	1664	6	2	2	2						
		T6	1550	6	2	2	2						
Memorial	8,960			22					562			191	
		204	1000	5	1	1	1	2		259	112	72	119
		504	1720	4	1	1	1	1					
		505	1760	5	2	1	1	1					
		506	2400	4	1	1	1	1					
		507	2080	4	1	1	1	1					
West	10,760			34					435			184	
		012	944	6	2	2	1	1		147	104	184	
		013	1904	4		2	1	1					
		016	1440	6	2	2	1	1					
		017	1440	2			1	1					
		018	1440	6	2	2	1	1					
		019	2112	6	2	2	1	1					
		020	1480	4	2	2							

Present Pre-Voc. Facilities Manchester
1/20/72

REQUIRED VOCATIONAL FACILITIES
(existing high schools)

Total Number of Seats[1]

	1972-1973	1973-1974	1974-1975	1975-1976	1976-1977
Business Education	135 (+79)	142 (+72)	149 (+65)	156 (+58)	163 (+51)
Home Economics	60 (+57)	90 (+27)	120 (- 3)	150 (-33)	180 (-63)
Industrial Arts	175 (+33)	300 (-92)	400 (-192)	400 (-192)	400 (-192)
Distributive Education	30 (0)	58 (-28)	86 (-56)	114 (-84)	142 (-112)
Totals	400	590	755	820	855

Note: ( ) Indicates difference between present requirements and facilities with regard to available space.

[1]See Population Projections, page II-18, II-19

EXISTING FACILITIES ANALYSIS

Name: West High School

Address: Notre Dame Avenue

Present Tenant or Owner: City of Manchester

Present Use: High School

Space: 18,956 (excluding waste space)

First Year 1972 - 1973

	Space Available	Seat Req. (sq.ft.)	Seats Reqd.	Space Needed	Surplus Area	Surplus Seats
Business	2,640	50	135	6,750	- 4,110	- 82[1]
Distributive Education	1,852	60	30	1,800	+ 52	- -
Industrial Arts	10,760	150	175	26,250	-15,490	-103[1]
Home Economics	3,704	100	60	6,000	- 2,396	- 22[1]
Totals	18,956			40,800	-21,824	

[1]Indicates overcrowded, non-state standard conditions now existing

EXISTING FACILITIES ANALYSIS

Name: Central High School

Address: Concord Street

Present Tenant or Owner: City of Manchester

Present Use: High School

Space: 20,960 (excluding waste space)

First Year 1972 - 1973

	Space Available	Seat Req. (sq.ft.)	Seats Reqd.	Space Needed	Surplus Area	Surplus Seats
Business	3,711	50	135	6,750	- 3,039	- 60[1]
Distributive Education	1,855	60	30	1,800	+ 55	+ 1
Industrial Arts	11,254	150	175	26,250	-14,996	- 99[1]
Home Economics	4,140	100	60	6,000	- 1,860	- 18
Totals	20,960			40,800	-19,840	

[1]Indicates overcrowded, non-state standard conditions now existing

EXISTING FACILITIES ANALYSIS

Name: Memorial High School

Address: South Porter Street

Present Tenant or Owner: City of Manchester

Present Use: High School

Space: 19,023 (excluding waste space)

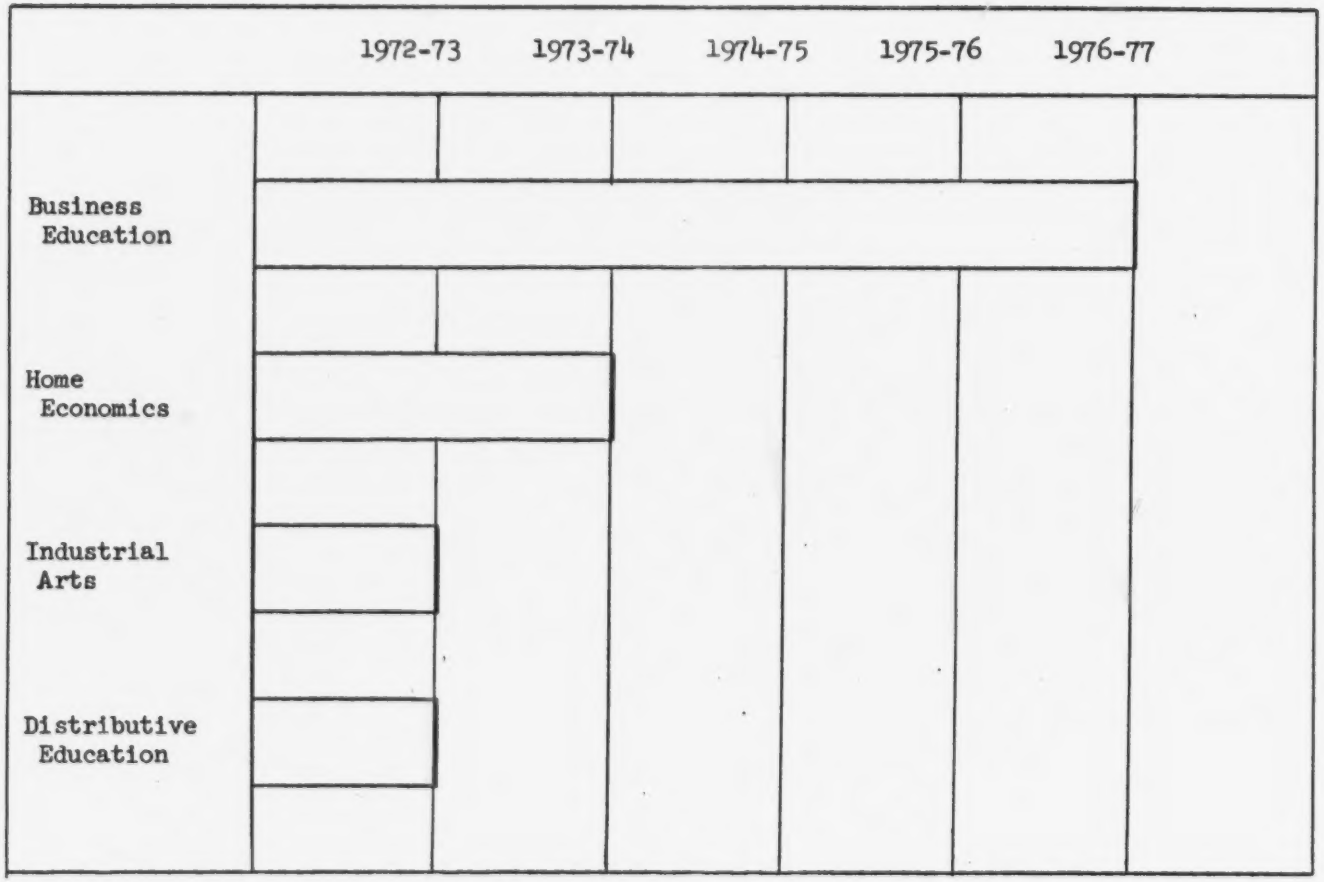
First Year 1972 - 1973

	Space Available	Seat Req. (sq.ft.)	Seats Read.	Space Needed	Surplus Area	Surplus Seats
Business	4,289	50	135	6,750	- 2,461	- 49[1]
Distributive Education	2,114	60	30	1,800	+ 314	+ 5
Industrial Arts	8,960	150	175	26,250	-17,290	-115[1]
Home Economics	3,660	100	60	6,000	- 2,340	- 23[1]
Totals	19,023			40,800	-21,777	

[1]Indicates overcrowded, non-state standard conditions now existing

EXISTING FACILITIES SATURATION CHART[1]

(Public High Schools Only)



[1]Assumes using existing pre-vocational space for proposed vocational education program

Section 2 - Population Data

Student Enrollment - 6/30/72

SCHOOLS	KDGT.	1	2	3	4	5	6	7	8	Spec.	Total	Teachers
HILLSIDE JR. HIGH								481	478		959	53
PARKSIDE JR. HIGH							148	257	238		643	35
SOUTHSIDE JR. HIGH								523	451		974	50
							148	1261	1167		2576	138

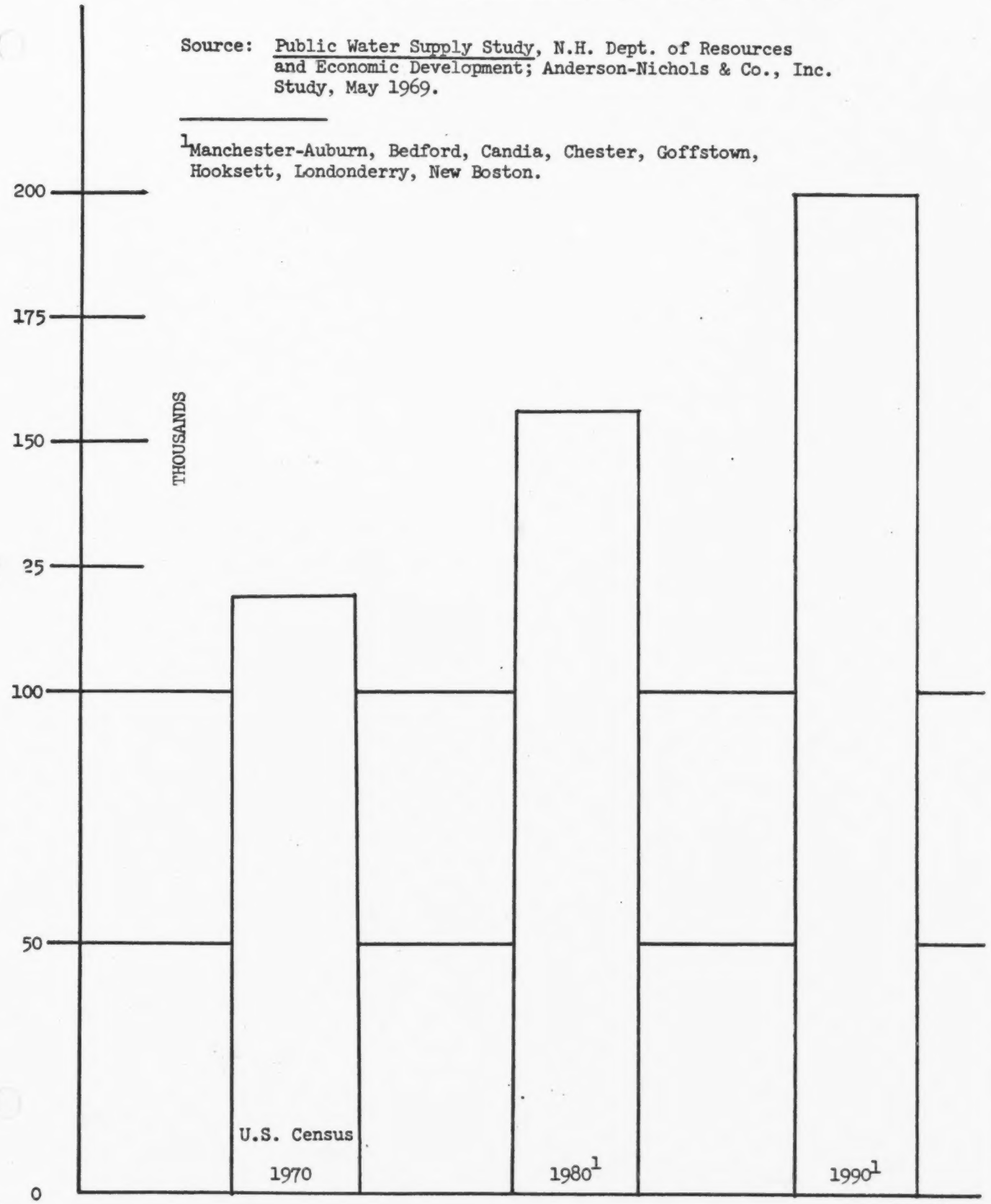
	FRESHMEN	SOPHOMORES	JUNIORS	SENIORS	P.G.	SPEC.	TOTAL	TEACHERS
CENTRAL HIGH SCHOOL	640 (98)	562 (81)	510 (58)	417 (46)		2	2,131 (283)	107
MEMORIAL HIGH SCHOOL	727 (136)	601 (127)	561 (82)	501 (85)			2,390 (430)	111
WEST HIGH SCHOOL	495 (142)	423 (130)	387 (106)	341 (95)			1,646 (473)	90
	1,862 (376)	1,586 (338)	1,458 (246)	1,259 (226)		2	6,167 (1,186)	308

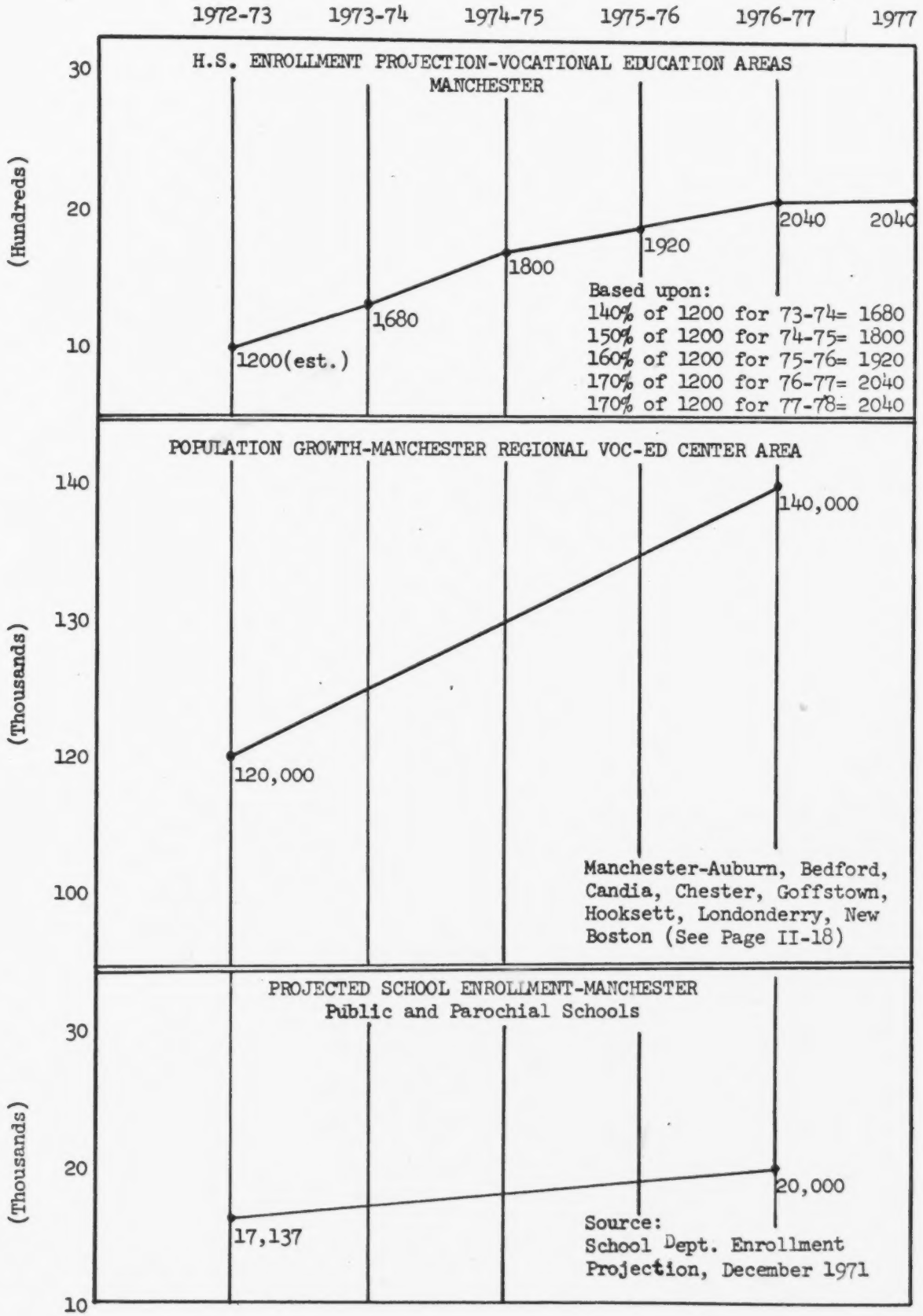
NOTICE - ( )	TOTAL PUPILS IN GRADES	7,901	TOTAL TEACHERS IN GRADES	299½	TOTAL TEACHERS	745½
Indicates	TOTAL PUPILS IN JR. HIGH	2,576	TOTAL TEACHERS IN JR. HIGH	138	TOTAL PUPILS	16,644
Tuition pupils	TOTAL PUPILS IN HIGH	6,167	TOTAL TEACHERS IN HIGH	308		

POPULATION GROWTH - MANCHESTER REGIONAL VOC-ED CENTER AREA[1]

Source: Public Water Supply Study, N.H. Dept. of Resources and Economic Development; Anderson-Nichols & Co., Inc. Study, May 1969.

[1]Manchester-Auburn, Bedford, Candia, Chester, Goffstown, Hooksett, Londonderry, New Boston.




1972-73
1973-74
1974-75
1975-76
1976-77
1977
H.S. ENROLLMENT PROJECTION-VOCATIONAL EDUCATION AREAS
MANCHESTER
(Hundreds)
30
20
10
1200(est.)
1680
1800
1920
2040
2040
Based upon:
140% of 1200 for 73-74= 1680
150% of 1200 for 74-75= 1800
160% of 1200 for 75-76= 1920
170% of 1200 for 76-77= 2040
170% of 1200 for 77-78= 2040
POPULATION GROWTH-MANCHESTER REGIONAL VOC-ED CENTER AREA
(Thousands)
140
130
120
100
120,000
140,000
Manchester-Auburn, Bedford, Candia, Chester, Goffstown, Hooksett, Londonderry, New Boston (See Page II-18)
PROJECTED SCHOOL ENROLLMENT-MANCHESTER
Public and Parochial Schools
(Thousands)
30
20
10
17,137
20,000
Source:
School Dept. Enrollment Projection, December 1971

D - Facilities Alternatives Analysis

Existing Facilities - Manchester

Foster Grant	One Sundial Avenue	
Anthrax Building	Mill Yard	Not approved for health by U.S.
A & P	North Elm	To be owned by Public Service of N.H.
Evangeline Shoe	Valley Street	For sale only
Emery Waterhouse	Candia Road	For sale only (after Jan. 1, 1973)
[1]Immaculata	Lowell Street	Central H.S. Annex for 9th grade and Dual Enrollment classes
West High School	Notre Dame Avenue	
Central High School	Concord Street	
Memorial High School	South Porter Street	
Manpower Training Center	Webster Street	

[1]Presently McDonough Building, purchased by the City of Manchester, August 1972

FACILITY EVALUATION

	Foster Grant	Immaculata	Manpower	Emery Waterhouse
Ease of Acquisition	Good (lease)	Good	Good(owned)	Fair (L or B)
Cost of Acquisition	$.85/yr. (est.)	1 to 1½ mil.	None	Buy $1M
Time of Acquisition	Now	?	Now	Jan. 1973
Structural Integrity	Good	Good	Good	Good
Plan Adaptability	Fair	Good	Good	Good
Health Adaptability	Fair	Good	Good	Good
Safety Adaptability	Fair	Good	Fair	Good
Parking Adaptability	Good	Good	Fair	Fair
Location (relation to home H.S.)	Fair	Fair	Poor	Poor
Proximity to Industry-Business-Home Economics	Good	Poor	Poor	Poor
Expandability	Poor	Poor	Poor	Fair
Modernizability	Poor	Good	Fair	Fair
Modernization Cost	Poor	Good	Good	Fair
Total Area	48,840 sq.ft.	34,700 sq.ft.	29,500 sq.ft.	126,000 sq.ft.
Years of Use	3 yrs.		1 yr.	5 yrs.

EXISTING FACILITIES ANALYSIS

Name: Foster Grant

Address: One Sundial Avenue

Present Tenant or Owner: Foster Grant

Present Use: Vacant

Space: Ground floor (occupied); Second floor 12,210
Third floor 12,210
Fourth floor 12,210
Fifth floor 12,210
Total 48,840 (excluding waste space)

First Year 1972 - 1973

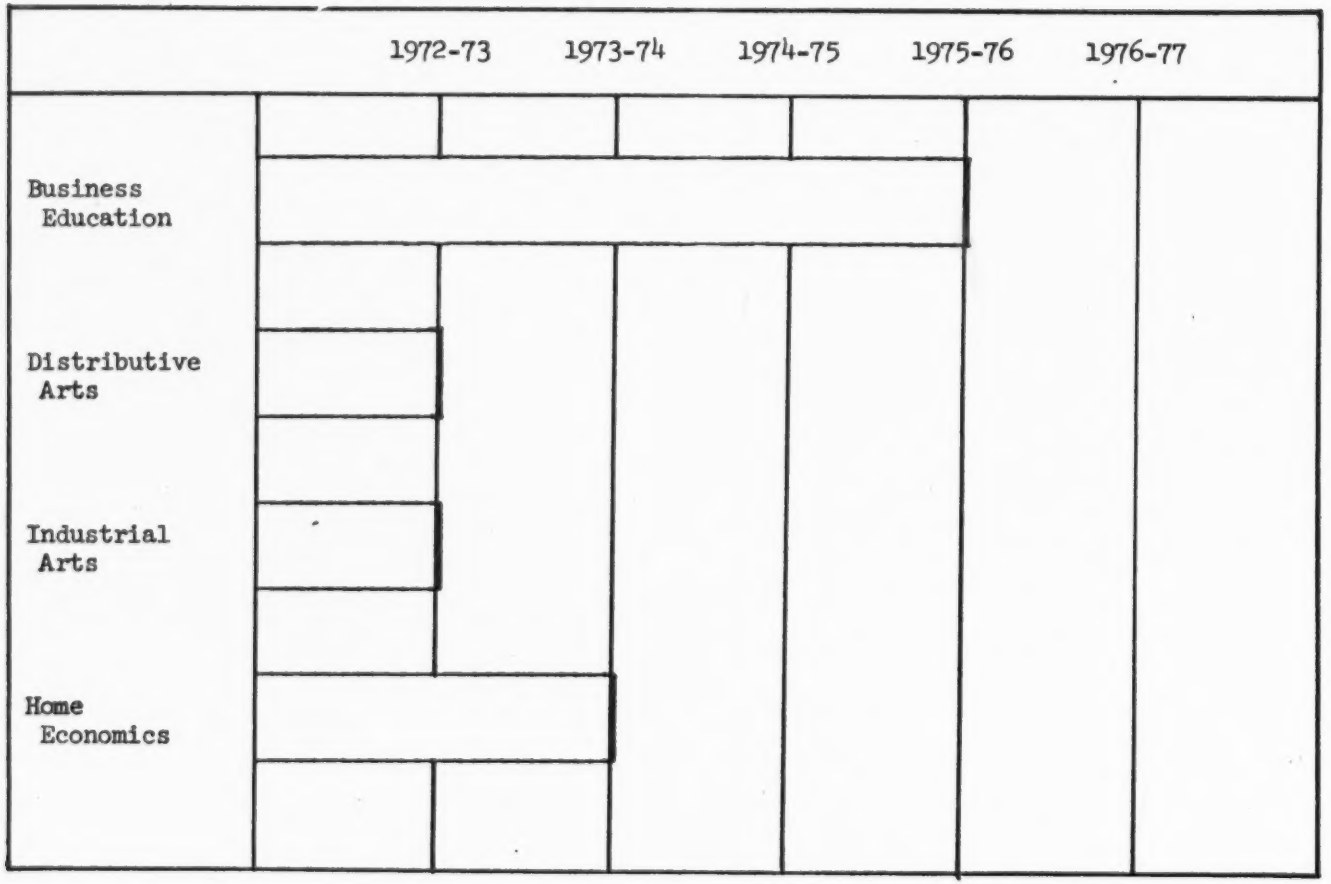
	New Space	Seat Req. (sq.ft.)	Seats Reqd.	Space Needed	Surplus Area	Surplus Seats
Business (16%)	7,814	50	135	6,750	+ 1,064	+ 21
Distributive Education (5%)	2,442	60	30	1,800	+ 642	+ 10
Industrial Arts (64%)	31,258	150	175	26,250	+ 5,008	+ 33
Home Economics (15%)	7,326	100	60	6,000	+ 1,326	+ 13
Totals	48,840			40,800	+ 8,040	

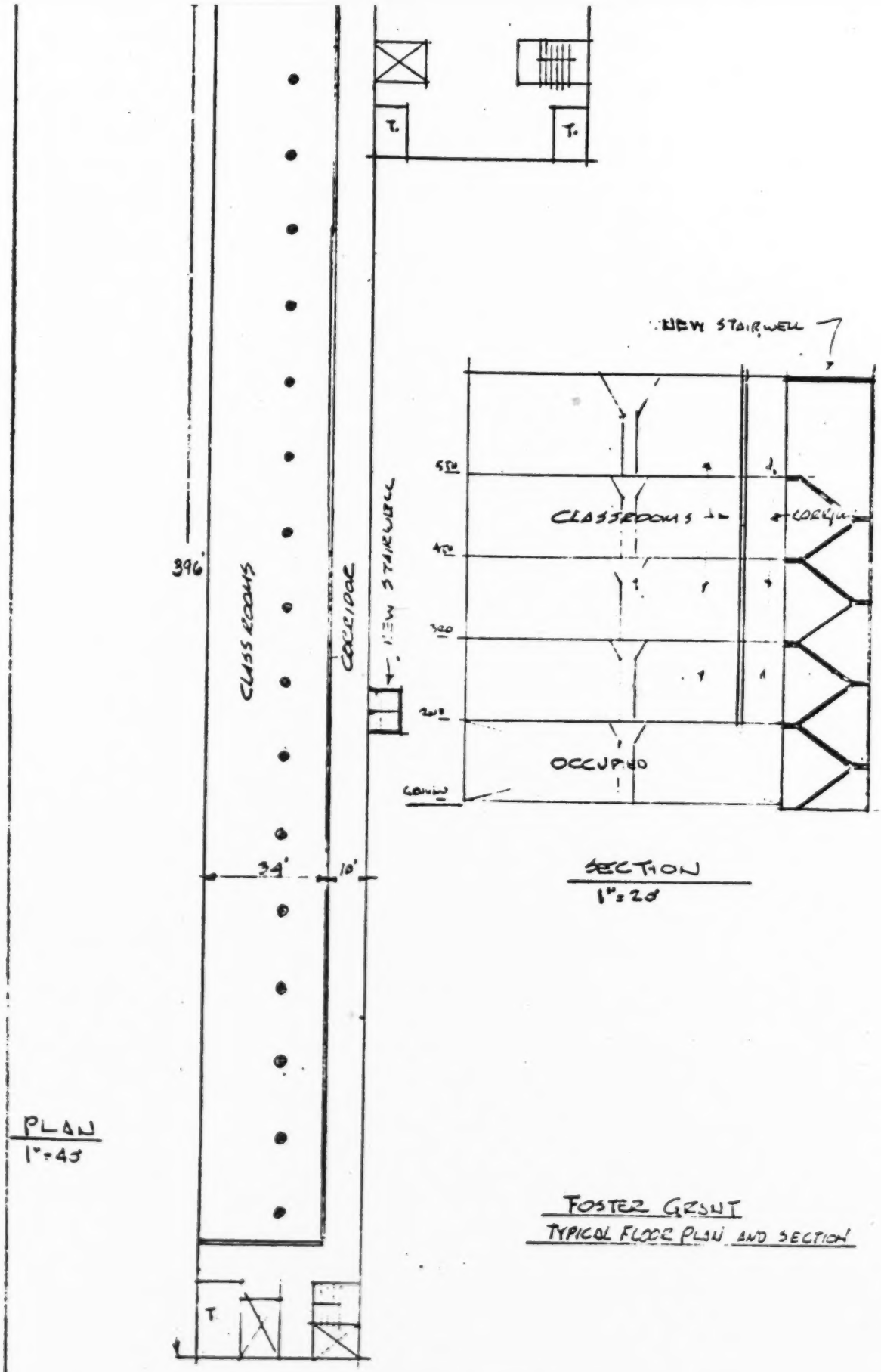
Second Year 1973 - 1974

Business (16%)	7,814	50	142	7,100	+ 714	+ 14
Distributive Education (5%)	2,442	60	58	5,400	- 2,958	- 49
Industrial Arts (64%)	31,258	150	300	45,000	-13,742	- 81
Home Economics (15%)	7,326	100	90	5,800	+ 1,526	+ 15
Totals	48,840			68,500	-14,460	

EXISTING FACILITIES SATURATION CHART

Foster Grant





FOSTER GRANT
TYPICAL FLOOR PLAN AND SECTION

MANCHESTER, NEW HAMPSHIRE VOCATIONAL EDUCATION PROGRAM

IMMACULATA HIGH SCHOOL FEASIBILITY STUDY

The following Report assumes the acquisition of Immaculata High School Building by the City of Manchester.

The present Building layout allows the following uses for Vocational-Technical Education:

Existing Rooms	Proposed Use	# Seats	Space Required
127-128 Domestic Arts 129 Fine Arts	Child Care Child Care	18	18 @ 110 = 1980 sq. ft.
130-131 Classrooms	Agriculture	14	14 @ 130 = 1820 sq. ft.
140 Locker Room	Building Const.	15	15 @ 125 = 1875 sq. ft.
150-151-152 Classrooms	Auto Mechanics	15	15 @ 175 = 2625 sq. ft.
153-155-156 Classrooms	Machine Shop	15	15 @ 150 = 2250 sq. ft.
167-173 Kitchen Cafeteria	Food Service	47	47 @ 110 = 5170 sq. ft.
202-203-207-210 Classrooms	Building Mechanics	48	48 @ 80 = 3840 sq. ft.
214-215-216 Classrooms	Office Practice	58	58 @ 50 = 2900 sq. ft.
220 Typing	Typing	28	28 @ 35 = 1980 sq. ft.
222 Office Practice	Office Practice	20	20 @ 50 = 1000 sq. ft.
226 Bookkeeping	Bookkeeping	25	25 @ 40 = 1000 sq. ft.
227-228 Classrooms	Distributive Educ.	29	29 @ 60 = 1740 sq. ft.
229-231 Classrooms	Health Occupations	29	29 @ 60 = 1740 sq. ft.
232-233 Classrooms	Drafting	29	29 @ 60 = 1740 sq. ft.
235-236 Classrooms	Electronics	29	29 @ 60 = 1740 sq. ft.
		372 Seats	= 32,400 sq. ft.

The assumed cost of renovating Immaculata High School to provide for the Vocational Education Program-not including furnishings and equipment and not including Phase TWO, is estimated at:

32,400 sq. ft. @ $5.00/sq. ft. = $162,000.00

Since the present use provides for girls only, the conversion of four of the Toilet Rooms would be necessary for the Boys.

The Gym will remain un-used on the assumption that these functions will be handled at Central-West-Memorial.

The above-mentioned areas of Gym-Auditorium may, in the future, be utilized by partitioning and adding one floor at the second floor level to take advantage of this extra space.

The accompanying drawings indicate how this can be done.

Approximately 17,000 sq. ft. additional are available for classroom space, utilizing the Gym at two levels. At an estimated cost (not including furnishings and equipment) of $10.00/sq. ft. for this space, the cost for Phase TWO would amount to: $170,000.00.

To build new facilities of 17,000 sq. ft., at the current rate (estimated) of $28.00/sq. ft., the cost would be approximately $480,000.00.

EXISTING FACILITIES ANALYSIS

Name: Manpower Training Center

Address: Webster Street

Present Tenant or Owner: Manpower Training Center

Present Use: Vocational Technical Post-Secondary Facility

Space:

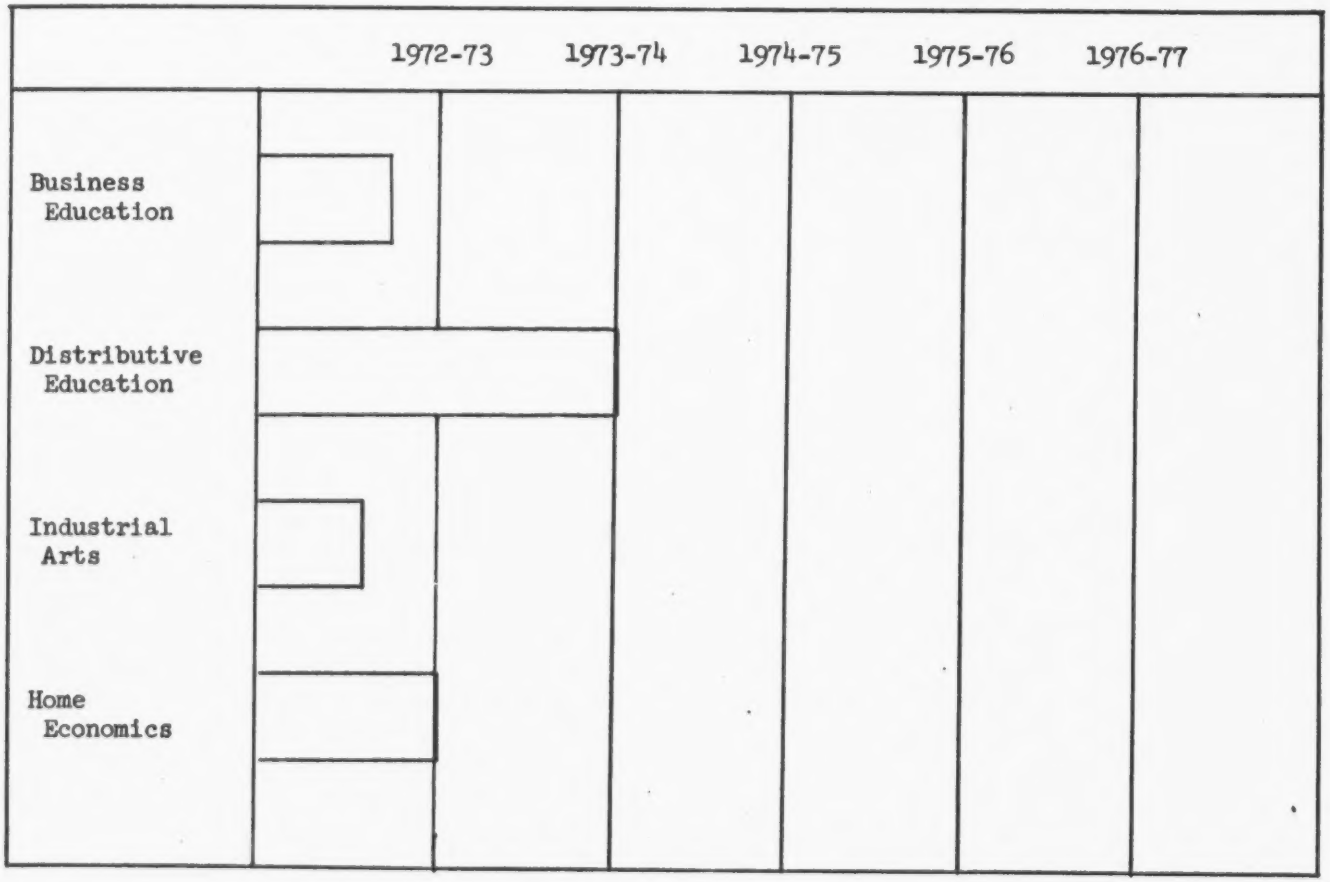
Ground floor	20,362
Second floor	3,386
Third floor	5,752
Total	29,500 (not including waste space)

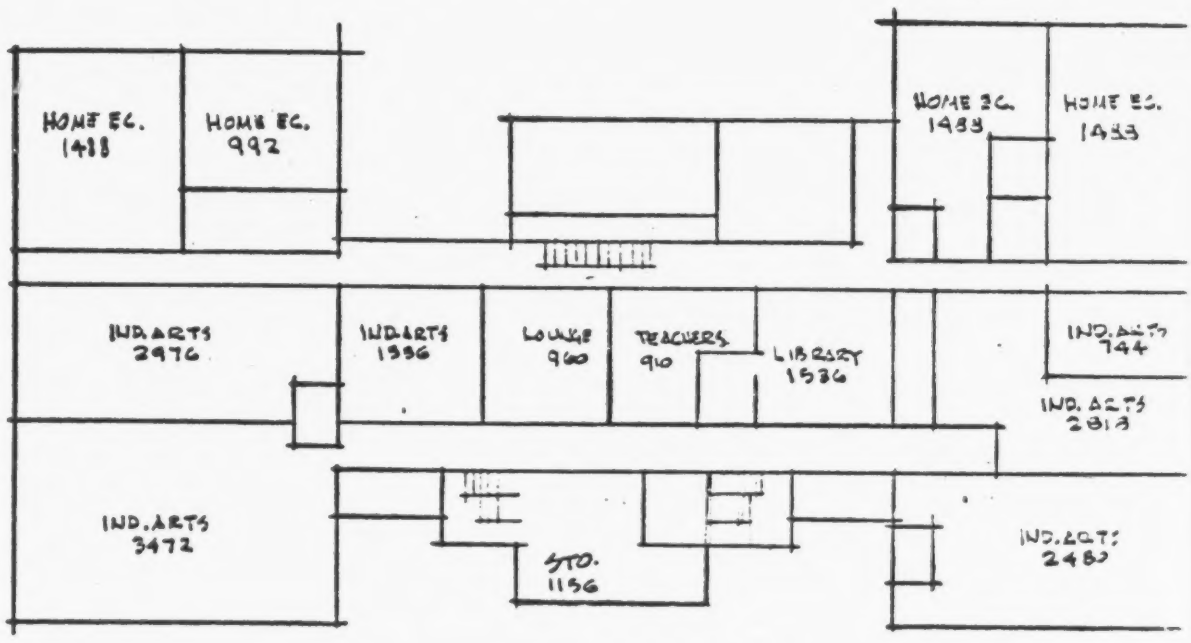
First Year 1972 - 1973

	Space Available	Seat Req. (sq.ft.)	Seats Reqd.	Space Needed	Surplus Area	Surplus Seats
Business	6,000	50	135	6,750	- 1,250	- 23
Distributive Education	3,000	60	30	1,800	+ 1,200	+ 20
Industrial Arts	15,000	150	175	26,250	-11,250	- 78
Home Economics	6,000	100	60	6,000	- -	- -
Totals	29,500			40,800	-11,300	

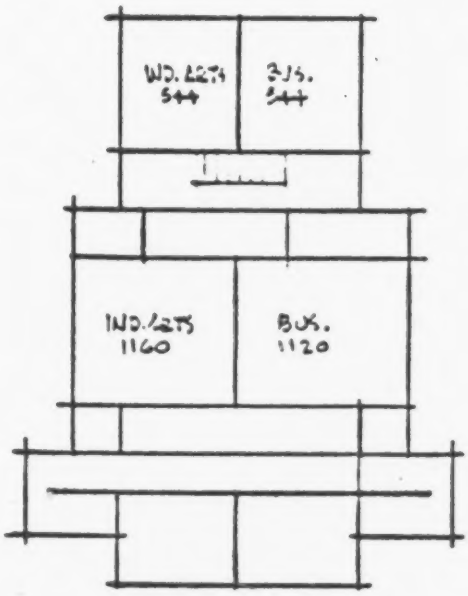
EXISTING FACILITIES SATURATION CHART

Manpower Training Center

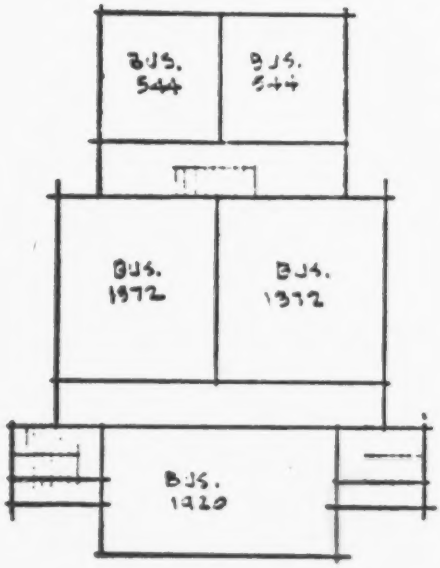




GROUND FLOOR



2ND FLOOR



3RD FLOOR

MANPOWER TRAINING CENTER

EXISTING FACILITIES ANALYSIS

Name: Emery-Waterhouse

Address: Candia Road

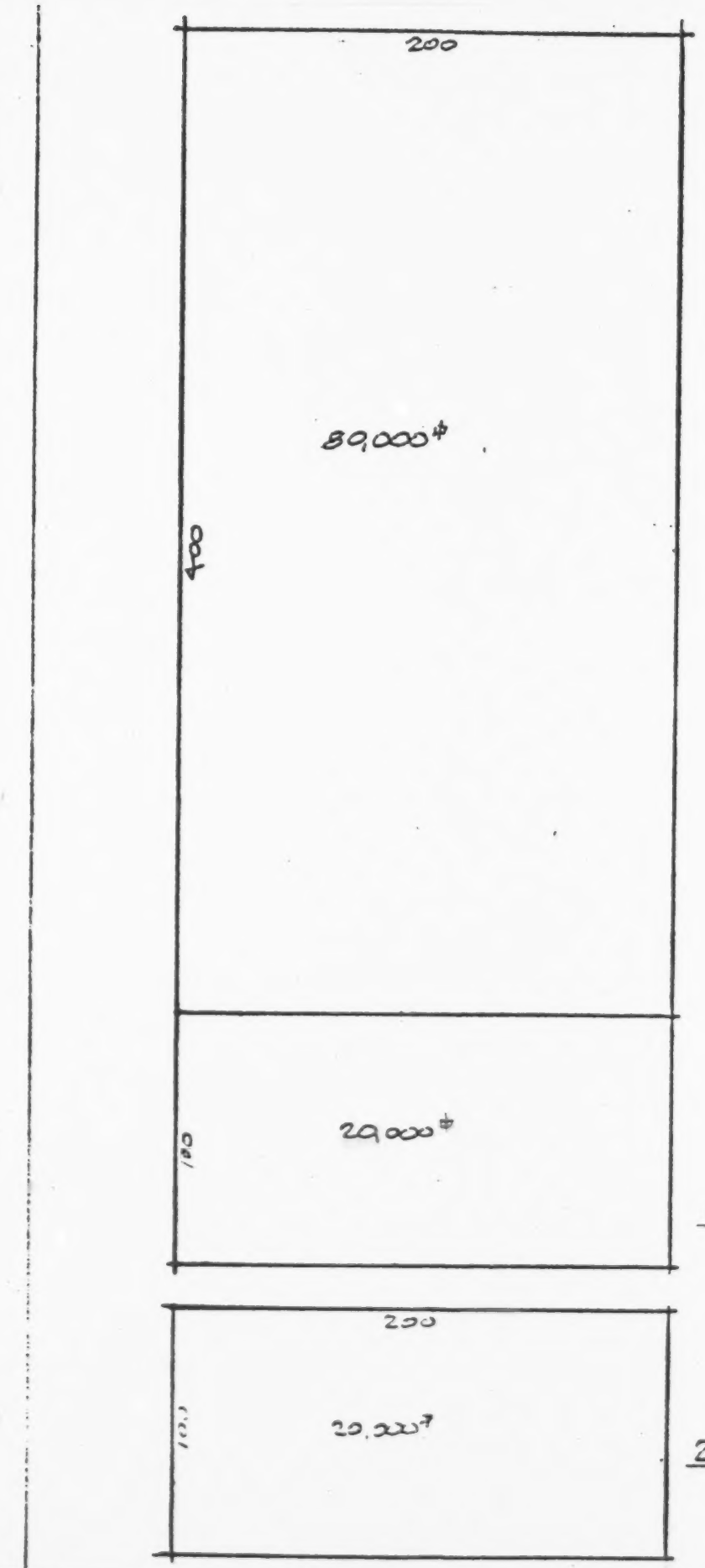
Present Tenant or Owner: Emery-Waterhouse

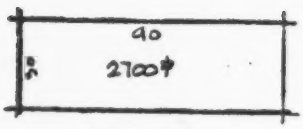
Present Use: Warehouse Facility

Space: Ground floor 106,000
Second floor 20,000

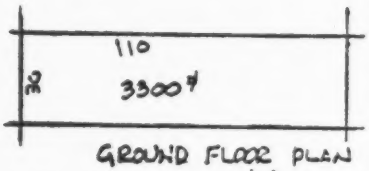
First Year 1972 - 1973

	Space Available	Seat Req. (sq.ft.)	Seats Reqd.	Space Needed	Surplus Area	Surplus Seats
Business	20,160	50	135	6,750	+13,410	+268
Distributive Education	5,670	60	30	1,800	+ 3,870	+ 64
Industrial Arts	81,900	150	175	26,290	+55,650	+371
Home Economics	18,270	100	60	6,000	+12,270	+123
Totals	126,000			40,800	+85,200	





GROUND FLOOR PLAN



GROUND FLOOR PLAN

GROUND FLOOR PLAN

EMERY-WATERHOUSE

2ND FL. PLAN

RECENT CONSTRUCTION COSTS

			Sq. Ft.	Total Cost
Con Val	(900)	1968	125,524	$ 3,600,000
Masenic	(600)	1968	63,000	1,500,000
Milford	(500)	1968	41,160	878,000
Kearsarge	(500)	1969	79,880	2,354,000
Plymouth	(500) (500) 1-8	1969	115,797	2,905,000
Salem	(addn)	1969	78,356	2,512,705

E - Summary and Recommendations - April 1972

Implementation of the Manchester Secondary Vocational Education Program will require 400 seats the first year of operation. The Program will expand to 885 seats at the 5th year.

The existing available facilities will require modernizing and purchase or lease.

None of the existing facilities are sizable enough to carry the Program beyond the 5th year.

This would necessitate the availability of a new facility, at the latest, by the beginning of the 5th year.

The only facility studied which would qualify up to the 5th year of operation is Emery-Waterhouse, which may become available for purchase after the end of 1972.

The breakdown is as follows:

Foster-Grant - lease cost of $48,000/year;
plus modernizing cost of $192,000;
plus equipment cost to be determined;
cost for 5 years: $432,000 for 477 seats.

Manpower Training Center - lease cost - none;
plus modernizing cost of $120,000;
plus equipment cost to be determined;
cost for 5 years: $120,000 for 319 seats.

Emery-Waterhouse - purchase cost - $1,000,000;
plus modernizing cost of $400,000;
plus equipment cost to be determined;
cost for 5 years: $1,400,000 for 885 seats.

Existing High Schools:

With the possible acquisition of Immaculata High School and the placement of the Central Freshman Class at Immaculata, some space will be available, on a limited basis, for a part of the Program.

Assuming that the present pre-vocational seats in existing high schools were available for Secondary Vocational Education the use of these seats would carry the Program for slightly longer than 1 year.

New Vocational Skills Center: construction cost - $2,000,000.

RECOMMENDATIONS:

1. Through curriculum re-design, utilize existing High Schools for temporary small-scale Program.
2. Begin planning of new Skills Center;
   Ground breaking on Skills Center - April '73
   Construction Skills Center - April '73 - June '74
   Occupy Skills Center - September '74

OPTIONS:

1. Modernize and lease Foster Grant & Manpower Training Center (filled to capacity by the end of the 3rd. year);
2. Modernize and purchase Emery-Waterhouse (filled to capacity at the end of the 5th year).

PART III

PROGRAM DEVELOPMENT

PART III - PROGRAM DEVELOPMENT

A. A Philosophy of Education

A fundamental purpose of education is to prepare the young to live a productive and rewarding life. Only about one high school student in six was enrolled in occupational preparation in 1970.

The fundamental concept of career education is that all educational experiences, curriculum, instruction, and counseling should be geared to preparation for economic independence and an appreciation for the dignity of work.

The student should be equipped occupationally, academically and emotionally to spin off from the system at whatever point he chooses -- whether at age 16 as a craftsman apprentice, or age 30 as a surgeon, or age 60 as a newly trained practical nurse. The student can realize his great range of occupational options and this helps the student develop positive attitudes toward work. Career education will enable nearly all persons who complete secondary school to obtain immediate employment or go on to technical school or college.

The essential need is that every student be equipped to live his life as fulfilled human being. If he is to live his life with machines, he must know how to use them. If he is to live with a slide rule or a computer, he must understand its magic. If he is to combat diseases which afflict mankind, he must know a great deal about the human body and mind and all the ills they are heir to.

It is wrong to suggest that general knowledge for its own sake is somehow superior to useful knowledge. Vocational education training is treated as education's poor cousin. Skills have been taught grudgingly, dull courses, in dull buildings, foolish for a country as dependent on her machines and her technology as America. When we talk of career development we are not talking about blacksmithing, we are talking about the capacity of our people to sustain, to accelerate the pace of progress in this country in every respect during a lifetime of learning.

Of those students currently in high school (nationally) only three out of ten will go to academic college-level work. One third of those will drop out before getting a baccaulaureate degree. That means that 8 out 10 high school students should be getting occupational training of some sort. But only 2 of those 8 students are, in fact getting such training.

We properly deplore the large numbers of young men and women who leave high school before graduation. But in simple truth, for most of them, dropping out is the most sensible elective they can choose.

We obviously require greater emphasis on such new vocational fields as computer programmers and technicians, laser technicians and jet mechanics. We particularly need qualified people in health occupations such as certified laboratory technologists, dental assistants, occupational therapists and the like. And, of course, we badly need men and women to capably service the rapidly growing environmental industries.

The philosophy permeating the curricula of the Division of Vocational and Technical Education focuses on developing an individual's potential through:

> Maintaining an environment for learning in which an individual develops initiative and self-reliance in problem-solving with regard to the world of work.
>
> Designing an environment for learning which fosters the development of marketable or avocational skills and knowledge.

The Secondary Schools should be preparatory for all students not just those headed for college. A preparatory program ties the curriculum to the lives of the student in such a way that he is better equipped to choose future goals, and better equipped to take the next step in each of several concurrent careers needed upon leaving high school.

Our philosophy involves the career cluster program which will require five major changes in our school system:

1. High Schools should move to career-clusters from the present tracking system which uses terms like college prep, general, or business. Rather than relating his program to a college prep or terminal track, the student should relate most of his high school experience to a career cluster. The student program emphasis will switch from academic ability to emphasis upon real life goals.
2. Most general programs should have a massive infusion of

illustrations from the world of work. The teaching process should involve behavioral goals which tell a student what he will be able to accomplish at the completion of each course.

3. The high school curriculum will be rebuilt around the career clusters or family of occupations concept so that the student may select a career cluster at the beginning of his high school experience.

4. Specific training for many occupations does not require college training, apprenticeship, or on-job training. If a student goes through a good career cluster program, he can be prepared for entry level jobs in many areas.

5. Students at the junior and senior level of high school still need not set specific goals but a broad field of interest so that the student can move toward his specific area of interest.

B. Goals

A program mission is consonant with legislation from the State Board of Education and local Board of Education policies. Often such legislation and policies change so that the program mission then must be redefined to reflect any of these changes. The local education policy must reflect a basic philosophy to implement vocational education and support the necessary expenditures whether or not there is State or Federal support. Goals then are adopted by Administrative leaders to accomplish broad areas of the mission.

Any goals require support from the administrative group to overcome problems in initiating necessary changes.

Determining annual program objectives that were in accord with the long-range goals and consonant with the space and fiscal realities of the situation, led to the following objectives:

To identify specific programs to be made available to the students;

To obtain the cooperation of teachers and administrators in bringing these programs about;

To emphasize vocational education in guidance activity for appropriate placement of students in vocational education classes;

To establish pre-requisites for initial introduction of students to vocational programs.

To assign initial enrollments in the program on a pilot basis to allow staff to adjust to this change over a period of time.

To update facilities and equipment during the initial implementation of pilot programs and prepare the way for greater expansion in succeeding years.

These are the objectives the planning staff is following with administration, School Board and Advisory Committee concurrence, in implementing the 1972-73 program.

Students were selected for the pilot vocational programs from the general pre-vocational areas of industrial arts and business because these students had basic knowledge or skill in the pilot areas.

The planning team's facilities analysis encompassed present facilities as well as other available space that could be considered

suitable for vocational training as detailed in Part II. The advisory committee directed the planning team to pursue the possibility of acquiring a parochial high school building five or six years old, to provide space for early implementation of all clusters and this avenue was arduously pursued. The school was acquired by the School Department but could not be devoted to vocational training at this time.

The advisory committee then recommended partial implementation on a gradual basis and the long range plan (see Part V) was developed to start with three clusters in 1972 and annual additions of clusters through 1977.

The acquisition of the parochial school structure eased the overcrowded conditions at Central High School to the point where a possible speed up of expanding vocational education programs in that facility may be possible.

Part V outlines the final recommendations developed by the planning project. They were adopted by the Advisory Committee on October 18, 1972.

PART IV

CURRICULUM

PART IV - CURRICULUM

A. Curriculum Recommendations

Standards were formulated for the development of criteria broad enough in scope to cover basic factors and flexible enough to meet the geographic and occupational needs of the region. Occupational analysis for job entry and successful advancement in each cluster should be provided. The curriculum is oriented to individual needs of diverse groups to provide for entry at different occupational levels and should provide for social as well as economic needs of the students. Subject content in the curriculum should be determined to some degree by student recommendations.

The first step in the process is an occupational analysis to determine the knowledge required of a successful worker, the abilities and behavioral characteristics he must display. A pattern must be established for analyzing all occupations.

The second step is to produce a course outline which sets forth objectives.

The third step is to develop a course of study from the course outline and analyze for scope and sequence.

B. Curriculum

The curriculum was developed based on data gathered from the community, needs assessment survey and perusing various preliminary documents that were set up by major occupational clusters. The

clusters designated as applicable for the Manchester regional area were then selected as:

Agriculture
Building Trades
Electricity/Electronics
Food Service
Health Occupations
Industrial Mechanics
Marketing
Metals
Office Occupations
Safety

Curriculums in these clusters were then developed through review of curriculum literature. After examination and analysis of model curriculums in the vocational education field it was decided to adopt the Oregon curriculum (August 1970).

Attachments E through N are the curriculum components recommended for the Manchester Regional Vocational Education Center. They are the Oregon curriculum with some local material and additions from the following curriculums:

North Carolina Program and Development Section of the Division of Occupational Education, Raleigh, North Carolina, 1970.

Ohio State Department of Education, February 1970.

Division of Vocational Education, University of California, Los Angelos, California, 1969.

Kentucky Research Unit for Vocational Education, University of Kentucky, Lexington, Kentucky, 1970.

The curriculum attachments are available at the State Department of Education and the Manchester School Department.

PART V

LONG RANGE PLAN

MANCHESTER SCHOOL DEPARTMENT — LONG-RANGE PLAN FOR REGIONAL VOCATIONAL EDUCATION PROGRAM

CONSIDERATIONS	PRESENT 1972	YEAR 1 1973	YEAR 2 1974	YEAR 3 1975	YEAR 4
Voc. Ed. related enrollments and percent of 11th & 12th grade students enrolled in certifiable voc. courses	VE related: 1200 Gr. 11 & 12: 600 VE certifiable: 60=10%	VE related: 1680 Gr. 11 & 12: 840 VE certifiable: 168=20%	VE related: 1800 Gr. 11 & 12: 900 VE certifiable: 270=30%	VE related: 1920 Gr. 11 & 12: 960 VE certifiable: 384=40%	VE related: Gr. 11 & 12: VE certifiabl
Number of Clusters	THREE	FOUR	FIVE	SIX	SEVEN
Selection of clusters in order of priority	Vocational Building Construction, Office Occupations, Auto Mechanics.	Change Auto Mech. to Ind. Mechanics Cluster. Add: Marketing	Add Agriculture-Recreation. Change Office Occupations to Secretarial Cluster	Add Food Service	Add Electron
Staffing	No additions, Part-time Instruction devoted to implement 1st VE courses	Hire Marketing instructor. Provide cluster workshop. 2 staff additions	Hire part-time Agriculture instructor. Provide interdisciplinary workshop	Add cook's helper Reassign Home Ec. teacher	Hire 1 teacher Expand to full Construction i tor
Recommended electives: Allied supportive and exploratory courses	Industrial Arts, Wood Shop, Drafting, Typing, General Math, Sheet Metal. Initial Coop Programs.	Add Orientation to World of Work to 8th Grade. Plan work experience	Add exploratory programs for 9th & 10th grade boys & girls. Initiate work experience	Add Welding to Sheet Metal. Plan Interdisciplinary Curriculum	Add Interdisci nary Communica Skills
Provision of guidance services	Testing, Scheduling, counseling vocational students	Involve guidance in Orientation to World of Work. Provide occupational information	Involve guidance in design of explore courses and follow-up	Involve guidance in work experience and placement	Expand guidanc information, f
Major facility changes	Minor classroom remodeling 2 added classrooms Central	Remodel classroom for Marketing Remodel West High Auto	Rent or build warehouse for Agriculture	Plan for two lab. facilities and three shop areas	———
Financial Considerations	Est. costs 26,000.00 Reimbursement received 26,000.00	Est. costs 28,000.00 Reimbursement 28,000.00	Est. costs 50,000.00 Reimbursement 50,000.00	Estimated costs for new facilities 2,500,000.00	Pass bond

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LONG-RANGE PLAN FOR REGIONAL VOCATIONAL EDUCATION PROGRAM

YEAR 1 1973	YEAR 2 1974	YEAR 3 1975	YEAR 4 1976	YEAR 5 1977
VE related: 1680 Gr. 11 & 12: 840 VE certifiable: 168=20%	VE related: 1800 Gr. 11 & 12: 900 VE certifiable: 270=30%	VE related: 1920 Gr. 11 & 12: 960 VE certifiable: 384=40%	VE related: 2040 Gr. 11 & 12: 1020 VE certifiable: 510=50%	VE related: 2040 Gr. 11 & 12: 1020 VE certifiable: 612=60%
FOUR	FIVE	SIX	SEVEN	Eight clusters some with two sections
Change Auto Mech. to Ind. Mechanics Cluster. Add: Marketing	Add Agriculture-Recreation. Change Office Occupations to Secretarial Cluster	Add Food Service	Add Electronics	Vo-Ag, Health, Marketing, Secretarial, Food Service Ind. Mechanics, Electronics, Construction
Hire Marketing instructor. Provide cluster workshop. 2 staff additions	Hire part-time Agriculture instructor. Provide interdisciplinary workshop	Add cook's helper Reassign Home Ec. teacher	Hire 1 teacher aide Expand to full-time Construction instructor	Hire 1 teacher aide
Add Orientation to World of Work to 8th Grade. Plan work experience	Add exploratory programs for 9th & 10th grade boys & girls. Initiate work experience	Add Welding to Sheet Metal. Plan Interdisciplinary Curriculum	Add Interdisciplinary Communication Skills	Add Interdisciplinary Math Skills
Involve guidance in Orientation to World of Work. Provide occupational information	Involve guidance in design of explore courses and follow-up	Involve guidance in work experience and placement	Expand guidance services in occupational information, follow-up, and placement	
Remodel classroom for Marketing Remodel West High Auto	Rent or build warehouse for Agriculture	Plan for two lab. facilities and three shop areas		Combination, new and old facility for eight clusters
Est. costs 28,000.00 Reimbursement 28,000.00	Est. costs 50,000.00 Reimbursement 50,000.00	Estimated costs for new facilities 2,500,000.00	Pass bond	Est. costs 2,300,000.00

PART V

APPENDICES

ATTACHMENT A

BUSINESS SURVEY

VOCATIONAL EDUCATION

NAME OF COMPANY:

ADDRESS

COMPANY'S PRIMARY BUSINESS ACTIVITY

NAME & TITLE OF PERSON(S) COMPLETING SURVEY:

C. JAMES OTIS
Director
MRS. V. L. SULLIVAN
Coordinator

INSTRUCTIONS: (a) Please check those job titles listed that exist in your company. (b) Check off any listed characteristics that are pertinent to that job as they apply to the employment patterns of your company. (c) List all additional job titles and check the pertinent job characteristics to complete the job patterns of your company.

Example: We checked "secretary" and noted that we have 1 male and 27 female secretaries in our company. We checked items 2, 4, 5, 9, 10, 14, 18, 22 and 26 because each of these job characteristics is pertinent to the job of secretary in our company.

			REQUIREMENTS										TRAINING														
JOB TITLE	No. of empl. M	No. of empl. F	1	2 LICENSURE	3 TRANSCRIPT OF RECORDS	4 HIGH SCHOOL DIPLOMA	5 TRADE CERTIFICATE	6 VOCATIONAL TECHNICAL COLLEGE	7 PHYSICAL EXAMINATION	8 SKILLS TEST	9 IS TESTING PART OF YOUR HIRING PROCEDURE?	10 MUST PASS APTITUDE/PERSONAL APPEARANCE EVALUATION	11 PERSONALITY TRAITS OF PRIOR EMPLOYEES	12 WE FEEL THAT THE FORMAL TRAINING OF APPLICANTS IS INADEQUATE	13 WE FEEL THAT THE FORMAL TRAINING OF APPLICANTS IS ADEQUATE	14 WE ALSO HAVE A PERIOD OF TRAINING TO FAMILIARIZE THE SELLER	15 WE HAVE INTENSIVE IN-HOUSE TRAINING TO MEET OUR NEEDS	16 WE HAVE SOME COMPANY TRAINING PROGRAM AT THE PRESENT TIME	17 WE HAVE AN INFORMAL O.J.T. PROGRAM	18 WE HAVE A FORMAL TRAINING PROGRAM	19 WE HAVE AN INTENSIVE COMPANY TRAINING PROGRAM	20 WE HAVE NO PLANS TO IMPLEMENT A TRAINING PROGRAM	21 WE ARE PLANNING AN INFORMAL TRAINING PROGRAM	22 WE ARE PLANNING TO EXPLORE THE INTERN APPRENTICE TYPE TRAINING PROGRAM	23 WE ARE ACTIVELY SETTING UP AN INTERN APPRENTICE TYPE TRAINING PROGRAM	24 IS THE NEXT FIVE YEARS (from 23 by)	25 WE PLAN TO PHASE OUT THIS JOB	THIS JOB QUOTA WILL BE	THIS JOB
(Sample) SECRETARY	1	27		✓		✓	✓				✓	✓				✓				✓				✓				
SECRETARY																												
UNSKILLED WORKER																												

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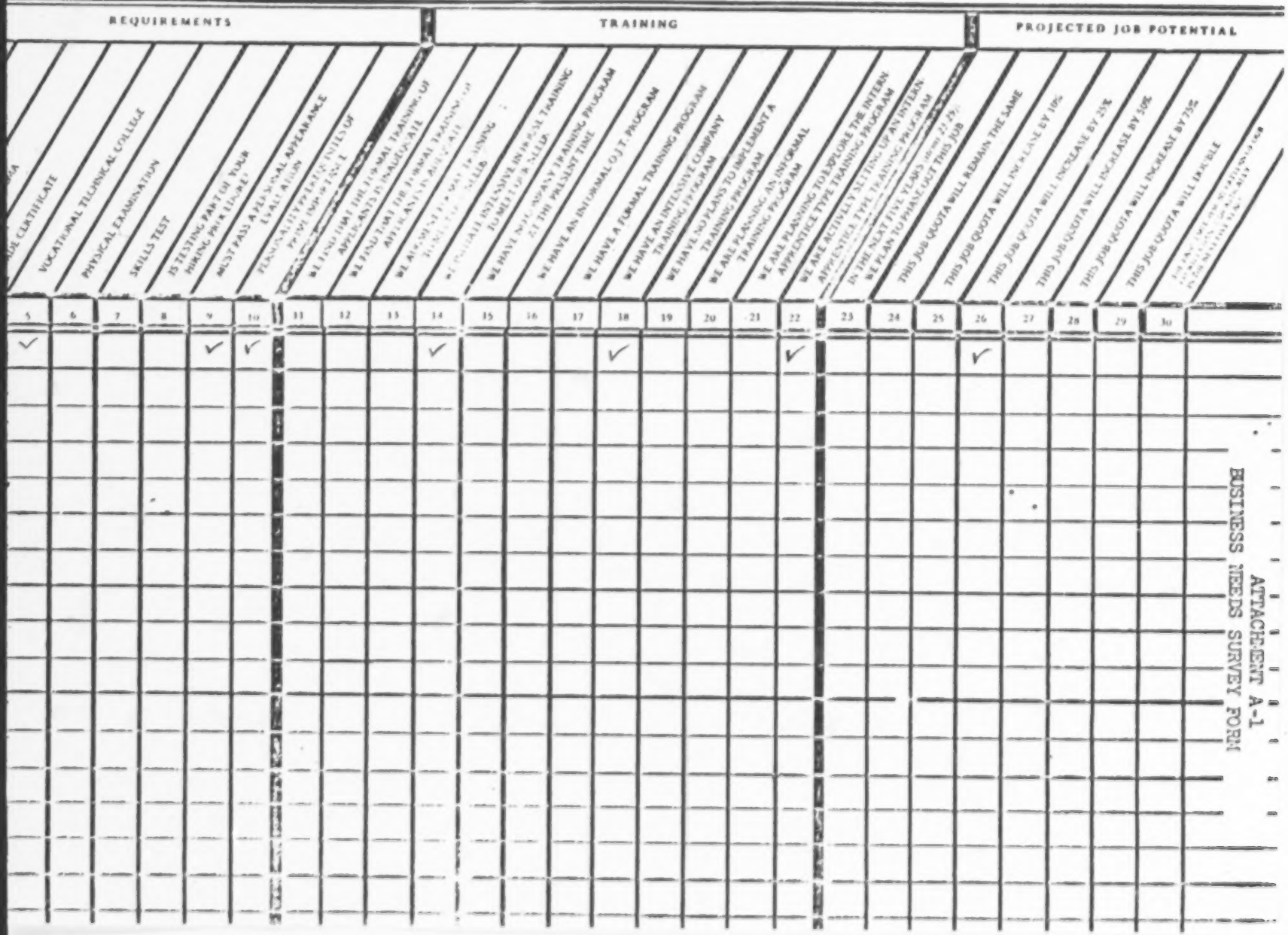
VOCATIONAL EDUCATION

C. JAMES GOVE
Director
MRS. Y. L. SULLIVAN
Coordinator

80 LOWELL STREET
MANCHESTER, N.H. 03104
TELEPHONE: 627-7888



ATTACHMENT A-1
BUSINESS NEEDS SURVEY FORM

BUSINESS NEEDS SURVEY

Accountants-Certified Public	Bigelow, Nathl. F.	116 Lowell	627-7659
			623-2162
	Drayton, John G.	1015 Elm	625-9601
	McCormack, John J.	99 Mayflower Dr.	627-7295
Accountants-Public	Bennett, Richard E.	1037 Elm	627-2200
	Shannahan, Jas. A. & Co.	922 Elm	669-4311
NCR Accounting Machines	National Cash Register Co.	Bedford Interchange	625-8559
Machines and Supplies	Jones Typewriter Co. Inc.	475 Second	625-8958
	Taft Business Machs. Inc.	342 Lincoln	624-4031
	Pioneer Office Equipment	20 Hazel	625-8201
Adjusters-Company	Bower Claim Adjusters Inc.	Daniel Web. Hghwy.	625-9615
Adjusters-Public	Standard Adjustment Serv.	Manchester	625-9636
Advertising	Campaign Counselors	418 Belmont	627-7437
	Cohen-Kelley Assoc. Inc.	323 Franklin	625-9631
	Mailways	101 W. Hancock	669-5252
	New England Telephone		225-4970
	Manchester Union Leader	35 Amherst	625-5432
	Partlan, Wm. H. Advg. Inc.	1003 Hooksett Rd.	623-0062
	Ad-Aids Unlimited	111 Joliette	623-7733
Air Cargo Service	Air Express Div. REA Ex.	Gold St.	625-8543
	Auclair Trans.	333 March Ave.	625-9791
Air Compressors	Cohen Machinery Co. Inc.	1 Douglas	624-4324
Air Conditioning Contractors	Beaudoin, J. R. Inc.	19 Glenridge Ave.	624-4577
	Eckhardt & Johnson Inc.	213 Hanover	622-7493
	LaChance, D. E.	789 Beech	623-9849
Air Conditioning Equipment	Parenteau, W. J. Inc.	147 Maple	669-7111
	Eastern Refrigeration Ser.	40 Lake Ave.	625-5920
	L & W Heating & Appliance	362 Amherst	622-2966
	R S L Distributors Inc.	670 Chestnut	625-5444
Air Travel Ticket Agencies	Colpitts Travel Center	992 Elm	625-8961
	Jubilee Travel Serv. Inc.	887 Elm	625-8904
Aircraft Charter, Rental	Cape and Islands Airline	Grenier Field	669-0132
Aircraft Dealers	New Eng. Aviation Corp.	Green Drive	625-8512
Aluminum	Cote, Paul A. Roofing Co.	44 Orchard	623-7508
	Aluminum Eng. & Supply	880 Second	624-4600
	Johnson Boys	1216 Somerville	623-2610
Ammunition	Ted's Sport Shop Inc.	195 Elm	622-1001
Amusement Devices	Manchester Music Co.	62 Lowell	669-5320
	Servomagion of N. New Eng.	16 Airport Rd.	424-3164
Amusements	King's Bowling Lanes	Mast Road	623-9215
	Queen City Lanes	84 W. Bridge	624-4413
Antennas	New Eng. Antenna Service	31 Carroll	623-5507
Antiques	Bill Handley & Assoc.	117 Walnut	669-7365
	Wilson's Antiques	638 Elm	669-1288
	Charron, A. J.	57 Maple	622-7481
Apartments	Bonin, Robert J.	625 Chestnut	669-2305
	Ledgewood Apartments	94 Bellevue	622-3709
Appraisers	Germana Dominic	75 Manchester	624-4400
	N. H. Appraisal Co.	74 Ash	623-3589
Architects	Koehler & Isaak	1880 Elm	669-4575
	Soule Associates	1008 Elm	622-5480
Armored Car Service	Securities Transportation	287 Kenberma	627-1983
Art Galleries	The Collector	159 Bridge	623-3793
Artificial Flowers	Hearts and Flowers	393 Union	669-4912
Artists-Commercial	Modelite Sign Co.	74 Oakland	623-4093

Asphalt	DeLuca J. J. Construction	90 Wilson	622-4202
	Gr. State Asphalt Prod.	Daniel Web. HghwyN.	624-4995
	Queen City Paving Co.	310 Second	623-5401
Auctioneers	Germana Dominic	75 Manchester	624-4400
	JohnZyla Disc. House	71 Tarrytown Rd.	623-7731
Audio-Visual Equipment	3M Business Products Sales	264 Mammoth	622-3733
Autographic Reg. & Supplies	Albert Business Forms	20 Hanover	622-9347
Automobile Air Condit. Equip.	Gus' Radiator Repair	96 West	622-5313
Automobile Appraisers	New Eng. Apprs. & Adj.	32 Webster	669-3682
			622-2163
Automobile Body Repair & Paint	Dobles Chevrolet Inc.	1250 S. Willow	669-2450
	Genest Ford Inc.	Daniel Web.HighwyN	623-8071
	Jim's Auto Body	1086 Candia	622-6794
	Mnchtr. Chrysler-Plymouth	1170 Dan. Wbstr.H.N	669-3005
	Bourque Motor Sales	170 Valley	623-8069
Automobile Dealers	Cavanaugh Bros. Motors	Dan. Wbstr. H. N.	625-5705
	Nixon Auto Sales Inc.	466 S. Willow	622-7700
	Intrnatl. Harvester Co.	435 Elm	623-8873
	Roland's Garage Inc.	238 Kelley	623-8247
Automobile Electric Service	Raymond's Motor Mart	220 S. Beech	622-1085
Automobile Machine Shop Service	Motor Rebuilding Corp.	27 Sagamore	622-4571
AutomobileParts & Supplies	Auto Electric Serv. Co.	21 Dow	625-6921
	Hebert & Sons Auto Sales	1323 S. Willow	623-3573
	Manchester Speed Shop	160 S. Beech	669-8530
Automobile Renting & Leasing	Avis Rent A Car	111 Webster	669-3752
	P & S Car Rental Inc.	660 Gold	669-7881
Automobile Repairing & Service	Houde's Garage	120 Massabesic	622-6357
utomobile School-Driving	Drive Right Auto School	630 S. Mammoth	669-4517
Bakers	Athens Bakery	362 Union	623-1594
	Cote Bros. Inc.	87 Elm	624-4071
	Table Talk Pie Co.	400 Boynton	625-9412
Banks	Amoskeag Savings Bank	875 Elm	669-4111
	Indian Head National Bank	147 Hanover	668-3131
	Mnchtr. Federal Savings	156 Hanover	625-6491
	St. Mary's Bank	200 McGregor	669-4600
Banquet Facilities	Chateau Restaurant	201 Hanover	627-2677
Barber Schools	N. H. Barber College	64 Merrimack	623-9957
Bathroom Accessories	J. J. Moreau & Son	1127 Elm	669-5400
Beauty Culture Schools	Houle's Beauty Academy	67 Stark	622-5851
Beauty Salons	Carousel Beauty Salon	655 Chestnut	669-8866
	Doll House Beauty Salon	160 Porter	669-5026
	Leo's Hanover Hill Beauty	446 Hanover	623-4643
Beds	Mammoth Mills Furn.	270 Mammoth	623-8831
Beverages	Coca-Cola Bottling Co.	155 S. Willow	623-6033
Bicycles	Jake's Bicycle Shop	412 Kelley	669-5422
Blue Printing	Min-A-Print Inc.	34 W. Bridge	669-5221
Boat Equipment & Supplies	Pellenz Bros. Inc.	711 Valley	622-6412
Boilers-Repairing	Philbrick G. H. Sons Inc.	52 Caron	625-9293
	Stark Engineering Inc.	N. Commercial	622-4931
Bookkeeping Service	Bois sonneault, Roger A.	44 Massabesic	624-4681
Borings-Test	Benjamin, George C., Inc.	170b Baker	625-8926
Boxes-Corrugated	Intrnatl. Paper Co. Cont.	Hayward	623-8825
oxes-Mfrs.	Bird & Son Inc.	34 Beech	625-8977
Brake Service	Connare, John A. Inc.	151 Elm	669-5455
		305 Second	669-4689
Bridal Shop	Modern Bride & Formal	1107 Elm	625-5995
Building Contractors	Americana Custom Homes	94 Granite	625-6192

	Lanctot, R. W. Constr. Co.	1429 Candia	623-1088
	Roycraft Realtors	55 Nelson	622-5262
Building Materials	Muir Lumber Corp.	479 Hayward	669-1321
	Sundeen Lumber Co. Inc.	271 Mammoth	668-1000
Building Materials-Whol	Sherry, The L. N. Co. Inc.	Lumber Lane	669-0354
Buildings-Metal	Dutton & Garfield Inc.	814 Elm	668-1231
	Custombilt Garages of N.E.	1065 Hanover	669-1621
Burglar Alarm Systems	Granite State Alarm Inc.	720 Union	669-3609
Bus Lines	Continental Trailways	323 Franklin	627-7857
Business Brokers	Anton J. Nossiff	33 High Ridge	669-8888
Business Consultants	Bennett, Richard E.	1037 Elm	627-2200
Cabinet Makers	Builders Supply & Mfg.Co.	111 Wilson	622-2611
Calendars	Henderson Associates	922 Elm	622-6428
Cameras	Durette Photo Co. Inc.	57 Manchester	622-4233
Camping Equipment	Ring & Cavanaugh Travel	557 Second	623-1321
Candy Mfrs.	Christy's Candies Inc.	545 Calef	622-8262
Candy-Retail	Fanny Farmer Candy Shop	969 Elm	623-4543
Candy-Whol	Manning, Jos. P. Co.	Granite	625-6405
Canvas Covers	Packard Auto Seat Cover	555 Valley	622-6493
Car Washing & Polishing	IMPS	720 Union	669-5994
Carburetors	D & A Distributors	795 Massabesic	669-1381
Carpet Layers	Michaud's Carpet Service	53 Maple	669-3578
Carpets	J. C. Best	1000 Second	669-8448
	Elliott's Home Furn.	990 Elm	625-9714
		Bedford Mall	669-1348
	J. A. Hebert & Sons	1279 S. Willow	625-9604
Cash Registers & Supplies	Business Equip. Co. Inc.	25 Depot	622-5011
Catering	Delirama Inc.	44 Bridge	623-1222
	Talbot Caterers Inc.	240 S. Main	622-9553
Chiropractors	Hickman, Jaquett S.	564 Hanover	623-0231
Cleaners	Crystal Lndry & Dry Clean	213 Union	624-4371
	Saniton Master Drycleaner	55 Central	627-7661
	Servicemaster Services	156 S. Main	669-8560
Clinics	N.H. Hospital Adult Mental Health	171 Amherst	669-5945
Clocks-Repairing	Inglis Clock & Watch Rprs.	13a Orange	624-4533
Clothing	Jim's Oxford Shop Inc.	71 Hanover	623-8451
	Ben Richard's	1093 Elm	625-9153
Coat & Apron Supply Service	Morgan Linen Service Inc.	S. Mammoth	627-7113
Collection Agencies	Capital Credit Corporation	487 Maple	669-1200
Contact Lenses	Mandel & Duclos	796 Elm	624-1311
Contracters' Equipt. & Supplies	Parker-Danner Co.	61 Beech	625-5724
Contracters-General	Bedford Engineerg & Heatg	198 S. River	625-6476
	Davison Construction Co.	1306a Elm	669-3456
	Gendron, Laval R.	55 Marston	623-4554
Coppersmiths	Copper House Americana	Manchester	669-5142
Cosmetics	Gosselin Pharmacies	131 Armory	622-3411
		484 S. Main	627-3771
Crane Service	Goulet Crane Service	111 Tarbell	624-0149
Credit Reporting	Dun & Bradstreet Inc.	50 Bridge	625-5731
Curtains	Curtain Shoppe	1186 Elm	622-6604
Data Processing Service	Automated Customer Service	1000 Elm	669-3221
Decalcomanias	Creative Fleet-Mark Sys.	111 Joliette	623-7733

Dental Laboratories	W. H. Pepin Dental Lab.	137 Ashland	625-8273
Dentist	Francis N. Kheriaty	788 S. Willow	623-4842
		41 Birch Derry	423-5562
Deodorants	Airkem-Vt/NH	146 Lowell	623-5050
Department Stores	Sears Roebuck and Co.	1415 Elm	625-9661
Dies	M. B. Machine Die Co.	423 Cilley	623-1721
Dishwashing Machines	Sundeen Appliance	275 Mammoth	669-6555
Door Operating Devices	Overhead Door Sales Co.	449 Hayward	669-5003
	West Side Lumber Co.	168 S. Main	622-6401
Doughnuts	Dunkin' Donuts	921 Beech	623-9923
		216 Elm	623-9132
Drain Cleaning	Roto Rooter Sewer Service	146 Lowell	669-9040
Draperies	Malmgren, O. J. Co.	36 W. Central	622-8601
	Langley, J. & R. Co. Inc.	169 S. Main	622-9653
Dressmakers	House of Fashion	1371 Elm	669-4059
Driveway Construction	M. L. Bishop	Hackett Hill	625-9076
Druggists' Sundries	Eluto Bros.	155 Auburn	622-0233
Dry Wall Contractors	Best Drywall	70 Notre Dame	625-9555
Duplicating Machines	Xerox Corporation	170 S. River	669-0250
	Service	Manchester	627-3435
Eggs	Poultrymen's Marketing Service Inc.	576 Willow	623-7011
Electric Appliances	Aime H. Boisvert	36 Alsace	622-9541
Electric Contractors	Keystone Electric Co.	36 Alsace	622-9541
Electric Heating Systems	Cartier Elect. Inc.	9 Rogers	622-5968
Electric Supplies	Graybar Elect. Co. Inc.	49 Hollis	624-4341
Electrolysis	Viola Hudon Salon De Coiffure	108 Belmont	622-9473
Embalmers	Lambert Funeral Home	1799 Elm	625-6951
Temporary Help-Employment	Availability of N.H. Inc.	42 Bridge	669-4440
Engineers-Construction	Richard J. Donovan Inc.	146 Lowell	668-3200
Engineers-Electrical	Alonzo B. Reed Inc.	Grenier Field	669-5420
Engines-Diesel	Hazelton, R. C. Co. Inc.	1645 Candia	627-7696
Engravers-Mechanical	Lague's Engraving Service	11 Reading	623-7315
Exterminating	A-Acme Termite Control	720 Union	622-3651
Express & Transfer Service	Bagley Co. Inc.	600 Willow	625-6451
Exterminating	Waltham Chemical Co.	45 Market	623-7267
Fabric Shops	Intrnatl. Fabric Store	586 Elm	669-7249
Fence	Agway Inc.	242 Beech	623-5853
Financing	Avco Financial Services	36 Hanover	625-9766
	Public Finance Corp. of Manchester	972 Elm	625-9644
Fish	Newton's Fish Mkt. Inc.	69 Manchester	627-7603
Flameproofing	Al's Rug & Upholstery	124 Biron	625-5085
Florists	Art in Flowers Inc.	119 Elm	669-9191
	Jacques Flower Shop	111 Front	625-6153
Foods-Ready to Serve	J & J Restaurant	387 N. Main	623-9068
Formal Wear-Rental	Tuxedo Junction	15 W. Merrimack	624-1355
Frozen Food Locker Plants	Frozen Food Center Inc.	217 Hall	624-4653
Fruit-Retail	Gram Whol Fruit & Produce	209 Cedar	669-3335
Fruit	Flavor-Fresh of N.H. Inc.	205 Elm	623-7257
Funeral Directors	Robert J. Durning Funeral	754 Chestnut	623-2130
	McHugh Funeral Home	292 Manchester	622-0962

Fur Remodeling & Repairing	McLane Taylor & E & R Furs	55 Central	627-7661
Furnaces-Heating	L & W Heating & Appl.	362 Amherst	622-2966
	Mailhot Heating & Air Conditioning Sales	Manchester	669-5159
Furniture	Fallon's Furniture	Cohas	623-2311
	A. A. Mooney Furn. Co.	20 W. Central	625-5795
Furniture-Mfrs.	Dunn Mfg. Co. Inc.	102 Maple	624-1751
Furniture Packing	Ray the Mover	Turner	669-7170
Furniture-Used	Wilson's Antiques	638 Elm	669-1288
Garage Builders	Custombilt Inc.	1065 Hanover	669-1621
Garden Equipment	Chagnon's Garden Center	865 Second	622-6022
Gas	Manchester Oxygen Co.	91 Maple	627-3824
	People's Gas & Oil Co.	195 Lincoln	623-7275
Gates	Standard Fence Inc.	Massabesic Traffic Cir	622-5333
Gift Shops	Book Bazaar	18 Hanover	622-3991
	Red Rose Florists	81 Hanover	625-6509
Glass	Demers Plate Glass Co.	377 Elm	627-4174
	State Glass Co.	129 Perry	623-6317
Glass-Automobile	Wayne's Mobile Glass	264 Wilson	669-5637
Grading Contractors	Pichette Bros. Inc.	714 Rimmon	625-6756
Hairdressers	Elite Beauty Salon	1188 Elm	623-6511
Hardware-Builders	Muir Lumber Corp.	479 Hayward	669-1321
Hearing Aids	Hodgdon Clinical Lab.	19 Bridge	624-4318
Hardware-Whol	Dallaire Building Sup.	100 Willow	625-8528
Heating Apparatus	Manchester Supply co.	79 Depot	625-5449
Heating Contractors	DAD Plumbing & Heating	175 Revere	622-8076
High Fidelity Sound Equipment	Fournier's Hillsboro Furn. Mart. Inc.	1211 Elm	623-8042
	Toy City	1150 Elm	622-3159
Hobby & Model Construction	Delux Home Improvement	386 Maple	669-7192
Home Improvements	Martin's Janitor Serv.	99 Pennsylvania	622-8722
House Cleaning	Borden Co. Inc.	60 Beech	623-8033
Ice Cream Freezers	Still's Nursery & Tractor Co.	192 Mammoth	622-9281
Insecticides	AETNA Ins. Co.	70 Stark	625-6905
Insurance	Association Canado-Americaine	52 Concord	625-8577
	Boston Mutual Life Ins.	67 Central	669-3021
	Hanover Life Ins. Co.	852 Elm	623-1422
	Harford Insurance Group	1230 Elm	623-8045
	Gordon McCown Assoc.	36 Lowell	627-7808
	Tessier Agency	922 Elm	625-5013
	Hanover Life Ins. Co.	857 Elm	622-0662
	Bankers Life & Casualty	Dan'l.Webstr.Hgwy.S.	625-9639
	Employers Ins. of Wausau	83 Hanover	623-4641
	Franklin Life Ins. Co.	264 Mammoth	669-5051
	Union Central Life Ins.	45 Market	625-5793
Intercommunication Equipment, Systems & Service	Eddie's Radio TV Stereo	361 Elm	669-2841
Interior Decorators	Sawyer Interiors Inc.	Manchester	623-3853
Investment Securities	Robert C. Carr	1662 Elm	624-4011
	Goodbody & Co.	1662 Elm	624-4011
	Anthony Tucker & Day	57 Hanover	625-9691

Jalousies	Johnson Aluminum Prodts.	163 Douglas	623-2622
Jewelers	Jason's Jewelry	645 Elm	669-3721
Junk Dealers	Lambert's Junk Yard	1551 Mammoth	623-4990
	Union Waste Co. Inc.	87 Union	622-8422
Justice of the Peace	Rita King Maher Realtor	8 Pepperidge	627-3333
Kennels	John Carroll	107 S. Wilson	622-3900
Kitchen Cabinets & Equipment	J. R. Higgins	449 Hayward	623-1323
	Kitchen Distributors	Manchester	627-7671
Knit Goods	Westfield Knitting Mills	Dow Ct.	627-7814
Labels	Creative Marking Systems	111 Joliette	623-7733
Laboratories-Testing	Goffstown Green Thumb Landscaping Inc.	Manchester	625-9197
Landscape Construction	Walton's Landscaping Co.	645 Somerville	669-1466
Lawn Mowers	Frank W. Dickey	Sheffield	622-2169
Lawyers	Philip J. Biron	875 Elm	622-2133
	McLane Carleton Graf Green & Brown	40 Stark	625-6464
	Wyman Bean & Tefft	1662 Elm	627-4111
Leather Finishing	Creative Finishers Inc.	Commercial	669-0075
Linen Supply Service	Squire Towel Apron & Coat Supply	525 Mast	623-3641
Linoleum	Michael's	300 Silver	622-7422
Loans	Guardian Credit Corp.	815 Elm	669-1757
Lubricating Devices & Systems	Advance Bearing & Supply	468 S. Main	623-8897
Lumber	Plywood Auction Inc.	121 Valley	625-9677
Markets	Bi-Wise Mkt. Inc.	431 Lake Ave.	623-3381
		Allenstown	485-9955
		643 Mast Rd.	624-4311
	Paquette's Super Mkt.	204 Belmont	622-8642
Meat Choppers & Grinders	Toledo Scale Div. of Reliance Electric Co.	354 Huse Road	622-8253
Milk	Blake's Creamery Inc.	46 Milford	624-4242
Mobile Homes-Dealers	Burgess Mobile Homes Inc.	1180 Daniel W.H.N.	623-5082
Mobile Homes-Transporting	Bob's Mobile Home Trans.	92 Smyth	623-0953
Monuments	Calvary Monument Co. Inc.	372 Milford	623-2433
Mortgages	Manchester Federal Savings & Loan Assn.	156 Hanover	625-6491
Motels	Granite State Motel	Londonderry Turnpk	625-6139
Motorcycles	Forest Pete	101 Upton	622-2461
Moving & Storage	Van Fleet Moving & Storage	696 Harvey	669-2802
Mufflers & Exhaust	John A. Connare	151 Elm	669-5455
Music Instruction	Arthur Welch Accordion Sch.	61 Amherst	669-0424
Newspapers	Manchester Union-Leader	35 Amherst	625-5432
	Royal Press Inc.	156 Merrimack	622-4342
Notaries Public	George Ins. Agcy. Inc.	432 Maple	623-7606
Nurserymen	Demers, Bob & Son	656 S. Mammoth	625-8298
Nursing Homes	Sunset Home for the Elderly	121 Bay	623-3054
Office Furniture & Equipt.	Business Equip. Co. Inc.	25 Depot	622-5011 669-3777
Oil Burners-Industrial	Stark Engineering Inc.	N. Commercial	622-4931
Oils-Fuels	Bellemore Heating Oils	57 Glenwood	623-1830
	Manchester Coal & Oil Co.	159 Elm	625-8531
	Profile Oil Co.	7 College	623-3968

Oils-Whol.	Heat-Ol Petroleum Products	170 Cleveland	623-4402
Optometrists	Mandel & Duclos	796 Elm	624-1311
Paint-Retail	Devoe Paint Div. of Celanese Coatings Co.	345 Lincoln	669-7711
	Mary Carter Paint	16 Bridge	622-0756
	E. W. Poore	826 Elm	622-3802
	United Petroleum Inc.	93 Middle	669-4433
Painting Contractors	Gerald Desrochers	394 Concord	623-0762
	Guimont Painting Co. Inc.	615 Green	624-4718
	William W. Turnbull	892 Mammoth	623-9590
Paper	C. H. Robinson Paper Co.	381 Elm	625-5701
Paper Stock-Waste	DeBlois Trucking Co. Inc.	Manchester	669-0655
Paving Contractors	Charles Hrycuna Co.	351 Bridge	625-5046
Pet Shop Supplies	Beattie's Aquarium	1298 Elm	623-7134
Pharmacies	Precourt Pharmacy	162 Wilson	625-8642
Photo Copying	Min-A-Print Inc.	34 W. Bridge	669-5221
Photographers	Frank Kelly	951 Belmont	622-2023
	Rheault Photographers Inc.	1061 Elm	627-7991
Physicians & Surgeons	James C. Brocoum	10 Prospect Nashua	883-1501
	Nicola Lembessis	1138 Elm	669-0971
	Carter B. Tallman	130 Parker Lawrence	688-6182
Pianos	Music Mart	934 Elm	623-0153
Piping Contractors	Acme Engineering Inc.	180 Revere Ave.	623-7211
Plastics-Molders	Prevue Products Co. Div. B. G. S. Shoe Corp.	195 McGregor	669-2721
Plumbing Contractors	Bedford Engineering & Heating Service Inc.	198 S. River	625-6476
	Ladouceur, George	200 Reed	627-3918
	New England Plumbing & Heating Co.	222 Brunelle	622-4837
	R. C. Peabody Co. Inc.	720 Union	669-3601
Plumbing Supplies	Goulet Supply Co. Inc.	341 Elm	669-2170
	Reeds Ferry Supply Co. Inc.	613 Front	627-4186
Podiatrists	Richard C. Descoteaux	913 Elm	623-2531
Printers	Peerless Printing	78 Joliette	622-9127
Produce-Whol.	Granite State Fruit Co.	30 Auburn	627-4131
Pumps	J. J. Moreau & Son	1127 Elm	669-5400
Radio Communication	Comex Inc.	720 Union	669-3600
Radio Stations	WGIR Broadcasting Station	Stark Lane	625-6915
	WKBR Broadcasting Station	155 Front	669-1250
Radios	Fournier's Hillsboro Furniture Mart Inc.	1211 Elm	623-8042
	R. S. L. Distributors Inc.	670 Chestnut	625-5444
Railroads	Boston & Maine Corp.	Cove	627-7655
	Penn Central Tran. Co.	1217 Elm	625-8713
Ranges & Stoves	Sundeen Appliance	275 Mammoth	669-6555
Real Estate	James S. Cavanaugh Jr.	814 Elm	622-0562
	John C. Ferry	373 Lake	624-4419
	Gabriel O. Lemieux	210 Amory	669-2113
Realtors	Dearborn Agency Inc.	2024 Candia	622-3939
	Richer Realty	289 Merrimack	669-5542
	Trudel's Real Estate	240 S. Main	622-9553
	Joseph F. Kenney	1247 Elm	623-5391
Refrigeration Equipment	Ray's Refrigeration Serv.	513 Hanover	623-2994
	Supply Distributor's Corp.	142 Merrimack	669-2896
Rental Service Stores	Green Mountain Rentals	819 Dan.W. H. N.	627-4311
Reporters-Court & Convention	Ernest W. Nolin & Assoc.	369 Elgin Ave.	623-6906
Rest Homes	Maple Leaf Nursing Home	593 Maple	669-1452

Restaurant Equipment	Eastern Restaurant Equip.	40 Lake Ave.	625-5920
			623-3872
	Sodamaster Equipment Co.	673 Dan. W. H. N.	624-1523
Restaurants	Athens Restaurant	339 Chestnut	623-9317
	Cedars of Lebanon	54 Mechanic	627-1711
	Dunfey's Tavern Restaurant	Bedford Intrchng.	622-3766
	Happy's Lunch	37 Massabesic	627-4963
	Leney's Lunch	157 Amory	623-8343
	Pizza-The Hut-Most	15 Pearl	669-0636
		741 S. Willow	622-8884
Resumes	Period Paragraph Steno-Mimeo Service	27 Webster	669-3757
Riggers	Auclair Trans. Inc.	333 March Ave.	625-9791
Road Service-Automotive	John Klardie's Gulf Serv.	63 S. Main	623-8281
Roofers	Paul A. Cote Roofing Co.	44 Orchard	623-7508
	Gil Kinney Roofing o.	127 S. Main	625-8293
Rooming Houses	Campus Estate	613 Front	623-9983
Rubbish Removel	DeBlois Trucking Co. Inc.	Manchester	669-0655
Rug & Carpet Cleaning	Crystal Carpet Cleaning	213 Union	624-4371
Rug & Carpet Repairing	A. W. Lamarche Carpeting	78 Norcross	627-1532
Rugs	Factory Rug Store	873 Page	627-7433
Safe Deposit Box Rental	Bank of New Hampshire National Association	1100 Elm	669-8900
Sandblasting	B. N. Perry Painting Co.	571 Chestnut	622-3851
Saws	Superior Saw Service	338 Granite	627-3161
Scalp Treatment	Pratte Clinic	1404 Elm	624-0021
Schools	Auto School of N. H.	8 Hanover	627-3913
	Eleanor F. Roberts Institute of Electrology	795 Elm	625-5100
Scooters-Motor	Durant's Sport Center	331 Granite	623-9270
Septic Tanks	B. H. S. Inc.	198 S. River Road	625-6476
Service Stations	Ack's Atlantic Station	10 Mammoth	623-9017
	Bedford Motors	13 S. River	623-9030
	Cashman's Atlantic Station	250 Elm	627-4965
	Ed's Service Center	300 S. Willow	623-2472
	Hanover Street Atlantic Service Station	887 Hanover	669-8805
	Willow Street Tulsa Service Station	S. Willow	627-4951
Sewer Cleaning Service	George's Septic Tank Pumping Service	Manchester	669-5544
Shavers-Electric	Tarrant	917 Elm	622-6471
Sheet Metal Workers	Gosselin Hardware & Heating Oils, Inc.	270 Amory	625-9553
Shoe Mfrs.	B. G. S. Shoe Corp.	5 N. Bedford	627-7636
	Indian Head Shoe Co. Inc.	114 W. Central	625-8916
Shopping Centers	Manchester Shopping Center	319 Lincoln	623-4488
Sidewalk Contractors	Charles Hrycuna Co.	351 Bridge	625-5046
Siding Contractors	Delux Home Improvement	386 Maple	669-7192
Signs	Nobert Sign Co.	425 Second	622-2130
Silverware	Desjardins & Co.	1069 Elm	625-8153
Ski Equipment	Ted's Sport Shop Inc.	195 Elm	622-1001
Snow Removal Equipment	Agway Inc.	242 Beech	623-5853
Snow Vehicles	A. T. Nault & Son Inc.	30 Bridge	625-8291

Social Service & Welfare	Community Information & Service Center	47 Manchester	623-9412
Sound Systems & Equipment	Jerry's Portable Appl. Serv.	872 S. Mammoth	622-6273
Sportswear	Winwood Sportswear Inc.	McGregor	625-5788
Staples, Staplers & Tackers	Bostitch Div. of Textron	146 Lowell	622-1961
Steamship Agencies	Garber Travel Service	968 Elm	627-3855
Steel Distributors	Lyons Iron Works Inc.	62 Maple	625-6975
Stock & Bond Brokers	Advest Co.	1257 Elm	625-9706
Stone-Crushed	Manchester Sand Gravel & Cement Co. Inc.	Dan. W. H. N.	624-4301
Storm Windows & Doors	Barry Aluminum Products Co.	394 Second	669-2023
	The Johnson Boys	1216 Somerville	623-2610
Surveyors	John T. Hills	42 S. Main	622-5595
Sweaters	M. K. M. Knitting Mills	N. Commercial	625-8981
Swimming Pool	Marklynn Swimming Pool Co.	494 Elm	622-6602
Telephone Answering Service	Answer America Inc.	720 Union	625-9777
Television Dealers	Electronic Engineering Service Inc.	665 Dan. W. H. N.	623-1893
	Jordan Marsh	Bedford Intrchng.	669-4200
	Tren Furn. & Appl. Co.	266 Mammoth	623-7282
Television Renting	House of Gelinas	37 Elm	623-9882
Television Service	John H. Condon	42 Wilson	625-5881
	Elquip Radio & Telvsn. Serv.	691 Somerville	622-8193
Tents	Mickey Finn of Manchester	1137 Elm	622-9842
Textiles	Chicopee Mfg. Co.	W. Bridge	625-5771
Thread	Michael's	300 Silver	622-7422
Tile-Ceramic-Mfrs. & Distrib.	Albert F. Fitzgerald	Commercial	622-6874
Tire Dealers & Distrs.	Genest Tire Co.	Dan. W. H. N.	623-8071
	Rice's	Granite	622-3741
Tobacco-Whol.	Manchester Tobacco Inc.	64 Granite	625-5461
Tools-Electric	J. J. Moreau & Son	1127 Elm	669-5400
Towing-Automotive	Dobles Chevrolet Inc.	1250 S. Willow	669-2450
	Town Line Garage Inc.	120 Turnpike	623-8054
Toys-Whol.	John Zyla Discount House	71 Tarrytown	623-7731
Tractor Dealers	Watson & Sons Inc.	68 Carroll	622-3973
Trailer Renting & Leasing	South Willow Street Mobil	1050 S. Willow	623-9238
Trailers	Burgess Mobile Homes Inc.	1180 Dan. W. H. N.	623-5082
Transmissions-Automotive	AAMCO Transmissions	1569 Elm	627-3868
	Sherbrooke Garage	381 Boynton	622-4428
Travel Bureaus	George Capetanos	167 Lake	623-4413
Trophies	Lakeside Lanes	Massabesic TrafCir	627-7722
Truck Bodies	Galion Dump Bodies & Hoists	340 Massabesic	623-3061
Truck Dealers	Gingras Truck Ctr. Inc.	72 Granite	669-6411
	Bracken Co. of N. H. Inc.	40 Willow	625-5427
Truck Renting & Leasing	Ryder-P & S Truck Rental	660 Gold	669-0300
	Moe's Truck Service	RFD #1 Londonderry Turnpk.	669-2058
Trucking	Boston & Maine Trans. Co.	B&M Freight House	669-0262
	Hemingway Transport Inc.	515 S. Willow	625-8548
	Stewart Trucking Co. Inc.	Grenier Field	669-1550
Typewriters	Business Equip. Co. Inc.	25 Depot	622-5011

Vacuum Cleaners	St. Lawrence & Son	104 Liberty	623-6793
	Kirby Vacuum Cleaners Co.	154 Bridge	624-4061
Vacuum Equipment & Systems	Maid Service of Manchester	91 Bellevue	627-2044
Variety Stores	Bill's Fruit Store	49 Massabesic	623-9087
	Maple Street Center	431 Maple	627-4953
Veterinarians	Lockridge Animal Hospital	1153 Hanover	624-4378
Wall Cleaning	Servicemaster Services	156 S. Main	669-8560
Wall Papers	E. W. Poore	826 Elm	622-3802
Warehouses-Cold Storage	McLane & Taylor Co.	624 Willow	623-3526
	Kimball & Brown Van & Storage Co.	March Ave.	625-8571
Washing Machines, Dryers & Ironers-Dealers & Service	Merrimac Tire & Battery Co.	1354 Elm	623-7251
	Appliance Land	23 Central	627-7782
Watches-Repairing	Charles Jewelers	104 Hanover	623-4122
Water Coolers	Westinghouse Elect Supply Co.	140 Hayward	625-5456
Waterproofing Contractors	Doucet Concrete Masonry Co.	227 Willow	624-1210
	Vulcan Basement Water-proofing Inc.	146 Lowell	669-5845
Wedding Announcements	Adeline Gamache	629 Belmont	622-6036
Wedding Consultants	Francis J. Sullivan Photographer	61 E. Broadway Derry	432-3041
Welding	Descoteaux Blacksmith Shop	445 Belmont	622-4310
	North End Welding Radiator Repair Co.	71 Myrtle	622-2793
	South End Welding Co.	171 Manchester	624-4211
	N. H. Welding Supply Co. Inc.	921 S. Willow	625-9757
Wheel Chairs	Coll's Medical Supplies Inc.	1331 Elm	625-9786
	Hatton's Pharmacy	775 Lake	669-1635
Wheel, Frame & Axle Servicing Automotive	Larry's Front End Serv.	322 Lowell	623-8111
	Midas Muffler Shops	464 Willow	669-7575
Wigs	House of Wigs	101 Hanover	622-0995
Window Cleaning	City Window Cleaning Co.	852 Elm	623-5522
Window Shades	Langley Co. Inc.	169 S. Main	622-9653
	Rex Venetian Blind Co.	177 Gay	622-8851
Wiping Cloths	St. Vincent De Paul Store	37 Manchester	627-1412
Women's Apparel	Indian Head Factory Outlet	175 Canal	627-1292
	Machinist's	54 Hanover	625-6446
Woodworkers	Morrison Mills Inc.	Commercial	622-5332
Woolen Goods	Stevens Plant Retail Store	Canal	669-0410
Yarn-Retail	Corner Cupboard	192 Mammoth	622-9281
Yarn-Whol & Mfrs	Syntextiles Inc.	186 Granite	623-7216
Zippers-Repairing	E & R Laundry & Dry Clnrs. Inc.	55 Central	627-7661

Mailed 9/29/71

FIRMS RESPONDING TO SURVEY

Dearborn Agency Inc.
Post Office Box 57
Manchester, N.H.
Real Estate, Pat Worfe

Genest Bakery
640 Harvard St.
Manchester, N.H.
Bakery Products
Mr. Beauregard

Ford Vending Co.
684 Auburn Street
Manchester,N.H.
Vending & Food Service
Mr. Gamans, Treasurer

Anderson Little Co. Inc.
Bedford Mall
Bedford, N.H.
Clothing Retail
Mr. Neveu, Manager

Pandora Industries
Commercial Street
Manchester, N.H.
Manufacturers
Mr. Brown, Personnel Director

Morgan Linen Service Inc.
So. Mammoth Road
Manchester, N.H.
Linen Service
Mr. Yanutis

House of Fashion
1371 Elm Street
Manchester, N.H.

Auclair Transportation, Inc.
333 March Ave.
Manchester,N.H.
Common Carrier
Mr. E. R. Gardner, Asst. to Pres.

Hanover Life Ins. Co.
852 Elm Street
Manchester,N.H.
Insurancy
Mr. Brown

Graybar Electric Co. Inc.
49 Hollis Street
Manchester, N.H.
Mr. Provencher

ITT Continental Baking Co.
69 Maiter Street
Manchester, N.H.
Route Sales
Mr. Al George, Manager

Langley Co.
169 So. Main Street
Manchester, N.H.
Draperies and haircurlers

Chicopee Manufacturing Co.
West Bridge St.
Manchester, N.H.
Textiles
Mr. Melvin C. Blais, Personnel Assistant

Medical Associates Professional Association
190 Broad Street
Nashua, N.H.
Medical Services
Claudia Foster, Business Manager

Servicemaster
156 So. Main Street
Manchester, N.H.
Professional Cleaning Service

Dunn Mfg. Co.
102 Maple Street
Manchester, N.H.

Mr. F. Dunn

Georges Insurance Agency Inc.
432 Maple Street
Manchester, N.H.
Insurance

Aetna Ins. Co.
70 Stark Street
Manchester,N.H.
Insurance

Gordon McCown Assoc. Inc.
36 Lowell Street
Manchester, N.H.
Insurance Sales & Service
Donald E. Folsom, Off. Mgr.

Indian Head National Bank
147 Hanover Street
Manchester, N.H.
Banking
Mr. Littell

Merchants Savings Bank
P.O.Box 60
Manchester,N.H.
Mutual Savings Bank
Margaret A. Simmons, Asst. Treas.

Bank of New Hampshire, N.A.
P.O.Box 600
Manchester, N.H.
Banking
J.H.Munroe, C. Dube

State of New Hampshire
State House,
Concord, N.H.
Jim Rundell
Personnel Technician

Acme Engineering Inc.
180 Revere Ave.
Manchester, N.H.
Pauline Lamey

Howe & Howe
707 Chestnut Street
Manchester, N.H.
Accountants
Mr. James Howe

AVCO Finance Services
93 So. Maple St.
Manchester, N.H.
Financial Service
Mr. Gordon Wentworth

Bower Claim Adj. Inc.
D. W. Highway
Manchester, N.H.
Claim Adjustor

New Hampshire Division AAA
70 Queen City Ave.
Manchester, N.H.
Automobile Club
Mr. Robert R. Nagle

Union Central Life Insurance Co.
149 Hanover Street
Manchester, N.H.
Life Insurance
Madeleine Langevin, Cas ier

Capital Credit Corp.
487 Maple Street
Manchester, N.H.
Collection Services
Mr. Bilodeau

The Manchester Bank
1100 Elm Street
Manchester, N.H.
Banking
Mrs. Mariette Lefebvre

Social Security Com.
149 Hanover Street
Manchester, N.H.
Service to the public
Charlotte Brooks

Comex Inc.
720 Union Street
Manchester, N.H.
Telephone Answering
Mr. Wallin

Public Finance
972 Elm Street
Manchester,N.H.
Loans
Mr. DeClanecy

Dunn & Bradstreet, Inc.
50 Bridge Street
Manchester, N.H.

Mr. Titcomb

Boissoneault, Roger
44 Massabesic Street
Bookkeeping Service
Mr. R. Boissoneault
Manchester, N.H.

Cohen & Kelley
323 Franklin Street
Manchester, N.H.
Advertising

Integrated Systems Management Corp.
1000 Elm Street
Manchester, N.H.
Data Processing Services
Francis X. McCarthy, Mgr.

United Community Services
62 Stark Street
Manchester, N.H.
Fund Raising & Planning for social welfare
Albert F. Mattison

Jubilee Travel Service Inc.
887 Elm Street
Manchester, N.H.
Travel Service

Beaudoin, J. R.
19 Glenridge Ave.
Manchester, N.H.
Plumbing
Mr. Beaudoin

Gerald Desrochers -
394 Concord St.
Manchester, N.H.
Paint Contractor
Mrs. Desrochers

Dean Floor Covering
1253 Elm Street
Manchester, N.H.
Floor Covering

Charles Hrycuna Co.
351 Bridge Street
Manchester, N.H.
Asphalt paving
Barbara Hrycuna, bookkeeper

N. E. Appraisers & Adjusters
32 Webster Street
Manchester, N.H.
Appraising
Mrs. Underwood

N. E. Aviation
Grenier Field
Manchester, N.H.

Mr. Gale Bower

Demers Plate Glass Co.
377 Elm Street
Manchester, N.H.

Mr. Antvin

Mailways
101 W. Hancock St.
Manchester, N.H.
Mail Advertising Service
Mr. John B. Prue

Eckhardt & Johnson Inc.
213 Hanover Street
Manchester, N.H.
Contractor
Mary Moul

Stark Engineering Co.
NO. Commercial Street
Manchester, N.H.

Michauds Carpet Service
53 Maple Street
Manchester, N.H.
Installed Carpets

A. Lamarche Floor Covering
359 Spruce Street
Manchester, N.H.
Floor Covering
A. W. Lamarche

Pete Forest
101 Upton St.
Manchester, N.H.
Motorcycles
Pete Forest

Pellenz Bros. Co.
711 Valley Street
Manchester, N.H.
Boat Building & Repair

Dobles Chevrolet Inc.
1250 So. Willow Street
Manchester, N.H.
Car Sales
A. J. Dobles

AAMCO Transmissions
1569 Elm Street
Manchester, N.H.
Rebuild Transmissions
Mr. Frank Yanco

Advance Bearing Supply Co.
468 So. Main Street
Manchester, N.H.

R.C. Hazelton Co. Inc.
1645 Candia Road
Manchester, N.H

Mr. Fineirock

Manchester Chrysler Plymouth
53 D W Highway
Manchester, N.H.
Auto Sales & Service

Gus's Radiator Repair Shop
96 West Street
Manchester, N.H.
Radiator Repair

Raytheon Company
676 Island Pond Road
Manchester, N.H.
Manufacturing Electronic Com.
Douglas R. Keele

Sprague Electric Co.
Pembroke Road
Concord, NH.
Electronics
A. V. Doore

New England Antenna Service
31 Carroll Street
Manchester,N.H.

Toledo Sclaes Div.
354 Huse Road
Manchester, N.H.

Lyons Iron Works, Inc.
62 Maple Street
Manchester, N.H.
Iron & Steel
Robert H. Worrell, Treas.

Anchor Electric

Manchester, N.H.
Metal Fab.
R. A. Roy.

Auto Electric Service Co.
21 Dow Street
Manchester, N.H.
Parts
Mrs. Kerner

Midas Muffler
464 Willow Street
Manchester, N.H
Auto Repair
Earle Denenberg

Ring & Cavanaugh
557 Second Street
Manchester, N.H.
Retail Sales & Service
Howard C. Ring

Wayne's Mobile Glass
264 Wilson Street
Manchester, N.H.
Glaziers

Sanders Associates Inc.
Grenier Field
Manchester, N.H.
Electronics
E. Mandelos

Sprague Electric Co.
Plymouth,
New Hampshire
Mfg. of capacitors
H. B. McWilliams

Xerox Corporation
170 So River Road
Manchester, N.H.
Mrs. Koepenick
Copying

The House of Gelinas
37 Elm Street
Manchester N.H.
Sales Service
Mr. Emile Gelinas

Dutton & Garfield Inc.
814 Elm Street
Manchester,NH
Metal

Dallaire Bldg. Sup.
100 Willow Street
Manchester, N.H.
Mrs. Bantis

Overhead Door Sales Co.
449 Hayward Street
Manchester, N.H.
Door Sales
Joan Bennett

Sherry Lumber Co.
Lumber Lane
Manchester, N.H.
Lumber Sales

J. R. Higgins, Inc.
449 Hayward Street
Manchester, N.H.
Kitchen Specialists
Joseph R. Higgins

Standard Fence, Inc.
92 Turnpike Road
Manchester, N.H.
Sales & Installation
Patricia Miller

Jones Typewriter
475 Second Street
Manchester, N.H.
Typewriter Service & Sales

Sundeen Appliance Co.
275 Mammoth Road
Manchester, N.H.
Appliance Sales & Service
Mr. Nolan

Manchester Oxygen Co.
91 Maple Street
Manchester, N.H.
Sale of gases & welding supplies
Jean D. Smith

Isaak, Moyer, Walsh & Dudley
1880 Elm Street
Manchester, N.H.
Architects-Engineers
Marshall M. Moyer

Eastern Refrigeration Equip.
40 Lake Ave.
Manchester, N.H.
Equipment Sales

Min-A-Print
34 West Bridge Street
Manchester, N.H.
Printing
Mr. Sadler

West Side Lumber Co.
168 So. Main Street
Manchester, N.H.
Lumber Sales
Paulette Cooley

Muir Lumber Corp.
479 Hayward Street
Manchester, N.H.
Retail Building Materials
Richard Hallett

Hermsdorf Fixture Mfg Co.
108 Franklin St.
Manchester, N.H.
Store Fixtures, School Lab. Equip.
Reynolds W. Smith, Jr. , Personnel Mgr.

Taft Business Machines
342 Lincoln Street
Manchester, N.H.
Machines
Mr. Taft

Supply Distributors Corp.
142 Merrimack Street
Manchester, N.H.

Devoe Paint Div. of Celanese Coatings Co.
345 Lincoln Street
Manchester, N.H.

Richard Donovan, Inc.
146 Lowell Street
Manchester, N.H.
Consulting Engineers
Paul C. Testa

John T. Hills, Civil Engineer
42 So. Main Street
Manchester, N.H.
Surveying
John T. Hills

Seal Tanning
Commercial Street
Manchester, N.H.
Tanning of Leather
Mr. Brisette

Ted Herbert's Music Mart
934 Elm Street
Manchester, N.H.
Musical Instruments
Ted Herbert

J. F. McElwain Company
367 Main Street
Manchester, N.H.
Shoe Manufacturing
Daniel F. O'Dowd

Barry Aluminum Products Co.
394 Second Street
Manchester, N.H.
Window & Door Sales

A. E. Borden Co.
60 Beech Street
Manchester, N.H.
Refrigeration & Air Cond. Sup.
James Toolin

T & S Enterprises
62 Lowell Street
Manchester, N.H.
Vending
Irving Taube

Pariseau's
1001 Elm Street
Manchester, N.H.
Retail Sales
George Younger

Pioneer Office Equipment
Grenier Field
Manchester, N.H.
Sale of Office Equip.

Manning, Jos. P. Co.
Granite Street
Wholesale Sundries
Mr. Ine

Partlan, Wm. H. Adv.
1003 Hooksett Road
Manchester, N.H.
Advertising
Mr. Partlan

Cohen Machinery Co. Inc.
1 Douglas Street
Manchester, N.H.
Industrial Supplier
Sheldon E. Lassond

A-Acme Termite Control Service

Manchester, N.H.
Pest Control
Mr. Condylis

Hesser College
155 Concord Street
Manchester, N.H.
Vocational Instruction
Alan M. Hill, Executive Director

REA Express
835 Gold Street
Manchester, N.H.
Transportation
H. V. Tracy

St. Vincent de Paul Store
37 Manchester Street
Manchester, N.H.
Resale of second hand goods

E. S. Newton Co. Inc.
69 Manchester Street
Manchester, N.H.
Retail & Wholesale Seafood
Paul Hussey

International Fabric Store
586 Elm Street
Manchester, N.H.
Fabric Sales

Securities Transportation
287 Kenberma Street
Manchester, N.H.

Packard Seat Covers
555 Valley Street
Manchester, N.H.
Seat Covering

Durette Photo Co. Inc.
57 Manchester Street
Manchester, N.H.
Photo-Supplies-Developing
L. B. Durette

N.H. Barber College
64 Merrimack Street
Manchester, N.H.
Barber Stylist Training
Roland Forcier

Stills Nursery & Tractor Serv.
192 Mammoth Road
Manchester, N.H.

Mr. Charles Still

United Petroleum Inc.
93 Middle Street
Manchester, N.H.
Oil Sales

Pagley Co Inc.
565 Gold Street
Manchester, N.H.
Express & Transfer Service

NAMES OF SINGLE PROPRIETORSHIPS NOT USED

Hickman Jacquett
564 Hanover Street
Manchester, N.H.
Chiropractor
Hickman Jacquett

Desjardins Jewelers
1069 Elm Street
Manchester, N.H.
Jewelry
Mr. Desjardins

Al's Rug & Upholstery
124 Biron Street
Manchester, N.H.
Upholstery

Calvary Monument Co. Inc.
372 Milford Street
Manchester, N.H.
Monuments

George Capetonas
167 Lake Ave.
Manchester, N.H.
Travel Bureau
George Capetonas

Colpitts Travel Center
992 Elm Street
Manchester, N.H.
Travel Agency

Bob Demers & Son Nursery
656 So. Mammoth Road
Manchester, N.H.

Bob Demers

Inglis Clock & Watch Repairs
13 Orange Street
Manchester, N.H.
Repair of Watches

Jordan Marsh
Bedford
New Hampshire
Sales

Frozen Food Center Inc.
217 Hall Street
Manchester, N.H.
Frozen Food

Albert Business Forms
20 Hanover Street
Manchester,N.H.
Business Forms

Book Bazaar
18 Hanover Street
Manchester, N.H.
Sale of Books

Campaign Counselors
418 Belmont Street
Manchester, N.H.

Cavanaugh, James
814 Elm Street
Manchester, N.H.
Real Estate
Mr. Cavanaugh

Continental Trailways
323 Franklin Street
Manchester, N.H.
Ticket Agents & Baggage Handlers

Descoteaux Blacksmith Shop
445 Belmont Street
Manchester, N.H.

International Paper Co. Container
Hayward Street
Manchester, N.H.

Mr. Paul Hackman

Kelly, Frank Photos
951 Belmont Street
Manchester, N.H.
Photography
Mr. Frank Kelly

Lagnes' Engraving Service
11 Reading Street
Manchester, N.H.
Engraving

M. B. Machine Die Co.
423 Cilley Road
Manchester, N.H.

Manchester Supply Co.
79 Depot Street
Manchester, N.H.

Modelite Sign Co.
74 Oakland Ave.
Manchester, N.H.
Artists - Commercial

Parker-Danner Co.
61 Beech Street
Manchester,N.H.
Air Compressors

Pratte Clinic
1404 Elm Street
Manchester,N.H.
Scalp Treatment

Richer Realty
289 Merrimack Street
Manchester, N.H.

Robinson Paper Co.
381 Elm Street
Manchester, N.H.

State Glass Co.
129 Ferry Street
Manchester, N.H.

Lembessis, Nicola
1138 Elm Street
Manchester, N.H.
Physician
Dr. Lembessis

Manchester Speed Shop
160 So. Beech Street
Manchester, N.H.
Car parts

MacLane & Taylor Furriers
55 Central Street
Manchester, N.H.

Nolin, Ernest & Assoc.
369 Elgin Ave.
Manchester,N.H.

Mr. Nolan

W. H. Pepin Dental Lab
137 Ashland St.
Manchester, N.H.

Ray's Refrigeration Service
513 Hanover Street
Manchester, N.H.

Eleanor Roberts, Inst. Elect.
795 Elm Street
Manchester, N.H.

Sawyer Interior Decorations
Manchester
New Hampshire

Welch Arthur Accordion School
61 Amherst Street
Manchester, N.H.
Music Instructor
Mr. Welch

ATTACHMENT B

STUDENT SURVEY

VOCATIONAL EDUCATION

88 LOWELL STREET
MANCHESTER, N.H. 03104
TELEPHONE: 627-7688

JAMES COVIS
Director
MRS. T. L. SULLIVAN
Coordinator

ATTACHMENT B

STUDENT INTEREST SURVEY

The information that you give us in this Survey will be used to serve YOU. This information will assist us in creating courses of study that will be geared to your expressed desires, interests, and future plans.

You have some ideas about the kinds of work that would interest you, the kinds of work that you would like to have a career in after you finish school. On the next several pages you will find lists of sixteen general occupational areas. Read through this list; find that general occupational area that appeals most to you.

PART I, CAREER PLANS, on your answer sheet, mark the box under the number of this Occupational Area by placing an X in this box. Next, read down the list of job titles under this General Occupational Area you picked, and find that job that you would most like to have. On your answer sheet, under the column, JOB 1st, score (by completely filling in the circle) the circle that is in front of the job title.

Repeat the same process choosing that General Occupational Area that you would like as a second choice, mark the box under the section, OCCUPATIONAL AREA 2ND CHOICE: by placing an X in it. Then find that job title in this Occupational Area that appeals to you best and score in the circle with the same letter under the column, Job 2nd.

If you have any questions about the meanings of any of the General Occupational Areas or about the Job Titles, ask the advice of the teacher administering this survey; but remember, it is your decision we are interested in.

O. K. BEGIN

PART I:

1. CONSTRUCTION:

A. Carpenter
B. Mason
C. Electrician
D. Plumber
E. Heavy Equipment Operator
F. Welders
G. Architectural Draftsman
H. Bricklayer
I. Craneman
J. Glazier
K. Surveyor
L. Rigger
M. Tile Setter
N. Painter
O. Plasterer
P. Riveter
Q. Structural-Steel Worker
R. Job Dispatcher
S. Roofer
T. Sheetmetal Worker
U. Other

2. BUSINESS & OFFICE:

A. Secretary
B. Stenographer
C. Typist
D. Bookkeeper
E. Accountant
F. Cashier
G. Bank Clerk
H. Bank Teller
I. Shipping & Receiving Clerk
J. Telephone Operator
K. Receptionist
L. File Clerk
M. Office Machine Operator
N. Office Machine Serviceman
O. Computer Operator
P. Keypunch Operator
Q. Computer Programmer
R. Data Processing Analyst
S. Personal Office Clerk
T. Switchboard Operator
U. Finance Clerk
V. Other

3. MECHANICS & REPAIRMEN:

A. Automobile Mechanic
B. Truck Mechanic
C. Aircraft Mechanic
D. Boat Mechanic
E. Diesel Mechanic
F. Farm Machinery Mechanic
G. Radio & T.V. Repairman
H. Auto Body Repairman
I. Airframe Construction
J. Industrial Electrician
K. Industrial Maintenance Mechanic
L. Household Appliance Repairman
M. Other

4. TECHNICAL:

A. Electronics Technician
B. Refrigeration Technician
C. Tool and Die Maker
D. Arch Welder
E. Teletypists
F. Air Traffic Controller
G. Radio Station Technicians
H. T.V. Station Technicians
I. Radio Operator(Plane & Ship)
J. Electronic Computer Programmer
K. Electronic Assemblymen
L. Crime Lab Technician
M. Communications Equipment Installers
N. Other

5. MEDICAL & HEALTH SERVICES:

A. Licensed Practical Nurse
B. Registered Nurse
C. Hospital Attendant
D. Ambulance Attendant
E. Medical Record Librarian
F. Medical Secretary
G. Medical Receptionist
H. Hospital Dietitian
I. Sanitarian

(continued)

5. MEDICAL & HEALTH SERVICES: (continued)

J. Medical Laboratory Technician
K. Medical X-Ray Technician
L. Dental Assistant
M. Dental Lab Technician
N. Pharmacists
O. Physical Therapist
P. Hospital Administration Clerk
Q. Veterinarians
R. Hospital Recreation Specialist
S. Medical Social Worker
T. Other

6. GOVERNMENT SERVICES:

A. City or Town Police
B. State Police
C. Career in Military Service
D. Fireman
E. Post Office Clerk
F. Mail Carrier
G. City Highway Department
H. Department of Public Works
I. Registry of Motor Vehicles
J. Teacher
K. Teacher Aide
L. School Librarian
M. Court Clerk
N. Court Stenographer
O. Tax Clerk
P. State Park Director
Q. Tourist and Recreation Bureau
R. Other

7. TRANSPORTATION:

A. Airline Ticket Agent
B. Airline Terminal Worker
C. Airline Stewardess
D. Flight Engineer
E. Taxi Driver
F. Bus Driver
G. Freight Truck Driver
H. Railroad Trainman
I. Merchant Maritime Service
J. Urban Traffic Planning & Control
K. Traffic Dispatcher
L. Other

8. MANUFACTURING:

A. Machine Tool Operator
B. Bench Assembler
C. Book Bindery Worker
D. Boring Machine Operator
E. Shipping Room Checker
F. Fork-Lift Operator
G. Dressmaking Cutter
H. Electronic Systems Assembler
I. Electroplater
J. Assembly Line Inspector
K. Printing Pressman
L. Typesetter
M. Linotype Operator
N. Stock Clerk
O. Factory Power-Plant Operator
P. Leather Finisher

9. GRAPHIC ARTS & COMMUNICATION:

A. Photo Processer
B. Commercial Photographer
C. Commercial Artist
D. Illustrator
E. Engraver
F. Design Draftsman
G. Photo Engraver
H. Radio-T.V. Broadcaster
I. Radio-T.V. Production
J. Photo-Lab Technician
K. Newspaper Reporter
L. Newspaper Photographer
M. Other

10. SALES:

A. Sales Clerk in a Retail Store
B. Manufacturer's Salesman (sells to stores for the factory)
C. Automobile Salesman
D. Advertising Salesman
E. Real Estate Salesman
F. Insurance Salesman
G. Direct Salesman (sells directly into the home to people)
H. Other

11. AGRICULTURAL & FORESTRY:

A. Truck Farmer
B. Dairyman
C. Government Crop Inspector
D. Agricultural Information Service
E. Commercial Fisherman
F. Food Processing
G. Produce Processing
H. Farm Supplies Serviceman
I. Florist
J. Landscape Architect
K. Lumberman
L. State Forester
M. Conservation Specialist
N. Veterinarian
O. Estate Gardener
P. Crop Duster
Q. Other

12. RECREATION & RESORT OCCUPATIONS:

A. Motel Manager
B. Hotel Chef
C. Hotel-Housekeeper
D. Hotel Recreation Director
E. Hotel Manager
F. Ski Instructor
G. Hotel Policeman
H. Hotel Dietitian
I. Public Information Specialist
J. Waiter (Waitress)
K. Hostess-Hotel Dining
L. Travel Bureau Counselor
M. Camp Counselor
N. Recreation Area Planning Development Specialist
O. Other

13. SOCIAL SERVICES:

A. Public Librarian
B. City Information Services
C. Social Welfare Nurse
D. Social Case Worker
E. Employment Counselor
F. County Agricultural Agent
G. County Home Economics Agent
H. Nurses Association Worker
I. Other

14. INDEPENDENT OWNER--PROPRIETARY BUSINESS:

A. Real Estate Salesman
B. Landscaper
C. Auto-Body Repairman
D. Insurance Salesman
E. Automobile Salesman
F. Dress Shop Owner
G. Men's Clothing Store Owner
H. Restaurant Owner
I. Catering Service Operator
J. Beautician
K. Auto Parts Store Owner
L. Independent Carpenter
M. Independent Trucker
N. Independent Printing Company
O. Other

15. SCIENCES:

A. Environmental Control Worker
B. Science Research Lab Assistant
C. Other

16. SKILLED CRAFTS:

A. Meat Cutter
B. Upholsterer
C. Lather
D. Stonemason
E. Composer (Printing)
F. Auctioneer
G. Boat Builder
H. Coppersmith
I. Silversmith
J. Watchmaker
K. Embalmist
L. Jeweler
M. Cabinet Maker
N. Engraver
O. Other

17. OTHER OCCUPATIONS NOT LISTED

PART II - SCHOOL PLANS: Now, we would like to know something about your present school plans. Take a look at your answer sheet. Part 2 - School Plans, has six circles that are lettered to correspond with the letters of six types of school plans below.

Fill in the circle that most nearly describes your present school plans or wishes. In other words, ask yourself: "If I had my way, I would pick--" and then choose one of the school plans below and circle the corresponding letter on the answer sheet.

A--To quit school in order to go to work as soon as I'm 16 years old (or as soon as I can).

B--To finish high school and then go to work immediately.

C--If I had the chance, I would transfer into a Vocational-Technical High School Course to study a specific job skill, finish this course and then get a job in that skill or trade before I go to work.

D--To finish the regular high school course and then go to a Post graduate Technical School to study a skill or trade before I go to work.

E--To finish high school and then go to a two year junior college.

F--To finish high school and then go to a four year college.

If you have any questions, please do not hesitate to ask the advice of the teacher administering this survey, but remember IT IS YOUR OPINION about your future that we are looking for.

Wait for your teacher to begin reading the instructions to the next part before you turn the page.

PART III: SCHOOL INTERESTS: Now we would like to get some idea about how you feel toward some school subjects.

The first subject is, MUSIC, you can indicate how you feel about this school subject, by scoring any one of the circles after music. If you like music VERY MUCH, you should score the space at the left end of the line under the word, LIKE.

If you do not like music, you should score the space at the right end of the line under the word, DISLIKE.

If your feelings about the subject of Music are neutral, you should score the circle in the middle of the line. Any variation from these two extremes or the neutral feeling would be indicated by filling any of the other circles. For example, if you really do not dislike Music, but you are only interested slightly then you might score one of the circles between the middle and the DISLIKE depending on the degree of interest you feel you have about the subject of music.

Now score those circles for each of the other subjects that indicates your feelings and thoughts about the other subjects.

Even if you are not taking one of these subjects in school now, use your past experience to indicate your score; if you have never taken this subject in school make a guess as to how you think you would like it if you did have to take it. Mark just one score for each subject.

Thank you very much for your cooperation. We will use this information you have given us on this survey to better serve you by designing courses that are realistic in terms of your expressed desires, interests and plans.

VOCATIONAL EDUCATION

88 LOWELL STREET
MANCHESTER, N.H. 03104
TELEPHONE: 627-7688

JAMES COVIS
Director
MRS. T. L. SULLIVAN
Coordinator

STUDENT INTEREST SURVEY

Directions For Administering The Survey

Each student should have one survey booklet and one answer sheet.

Each student should use a pencil for the test. If there are corrections to be made, each student should be sure to make a clean erasure.

This Survey is untimed; however, since the responses asked for are simple and there are few of them, we feel that the entire survey should take no more than 20 minutes to administer.

MARKING THE ANSWER SHEET:

PLEASE READ ALOUD TO THE STUDENTS AND WAIT FOR THEM TO COMPLETE EACH SECTION BEFORE GOING ON.

1. Print your name (last name first)

2. Print the name of your high school, your grade, your sex (male or female), the title of the course you're taking (i.e. college prep, business, general, etc.)

3. Under AGE fill in the circle that indicates your age in years and the circle that indicates your age in months; (any birth date after the 15th of the month is rounded off to the next month; hence, a 17 year old whose birthdate is April 16th would mark 17 yrs, 5 mos.)

4. Under CODES Column A - fill in the code number for your high school.

1---Central	4---St. Marie
2---Goffstown	5---Trinity
3---Memorial	6---West

5. Under CODES Column B - fill in the code number for the grade you are presently in:

1---Freshman	3---Junior
2---Sophomore	4---Senior

6. Under CODES Columns C and D - Please indicate the public grammar school you would be going to if you were now in grade 6. If you would be going to Amoskeag School, you would mark 1 in Column D; if you would be going to Smyth School, you would mark 1 in Column C and 6 in Column D. Grammar School code:

1.	Amoskeag	12.	Lincoln
2.	Ash	13.	Maynard
3.	Bakersville	14.	Parker-Varney
4.	Brown	15.	Pearl
5.	Chandler	16.	Smyth
6.	Franklin	17.	Straw
7.	Gossler Park	18.	Webster
8.	Green Acres	19.	Weston
9.	Hallsville	20.	Wilson
10.	Highland-Goffe's Falls	21.	Youngsville
11.	Jewett	22.	Goffstown Schools

23. Other Public Schools

DO NOT LET ANY STUDENT START TO MARK HIS SURVEY UNTIL YOU HAVE FINISHED READING THE INSTRUCTIONS.

PART I: CAREER PLANS: Have the students read Page one of their Survey Booklet silently as you read it to them aloud. If there are no questions have them fill in Part I of their answer sheets.

PART II: SCHOOL PLANS: Have the students read page five of their Survey Booklets silently as you read it to them aloud.

PART III: SCHOOL INTERESTS: Have the students read page six of their Survey Booklets silently as you read it to them aloud. Collect the Survey Booklets and the Answer Sheets and pile them separately. The answer sheets need not be alphabetized.

Please make a quick visual check to ascertain that all parts of the answer sheets are filled in.

Return your Survey materials to Mrs. Theresa L. Sullivan, Coordinator, 88 Lowell Street, Manchester, New Hampshire.

THANK YOU.

VOCATIONAL EDUCATION
88 Lowell St. – Manchester, N.H. 03104
Tel. 627-7688

Student Interest Survey

Name: _____
Last First

School: _____ **Grade:** _____

SEX: _____ COURSE: _____

AGE

Yrs.	Mos.
13	0
14	1
15	2
16	3
17	4
18	5
19	6
20	7
21	8
22	9
23	10
24	11

CODES

A	B	C	D
0	0	0	0
1	1	1	1
2	2	2	2
3	3	3	3
4	4	4	4
5	5	5	5
6	6	6	6
7	7	7	7
8	8	8	8
9	9	9	9

PART 2-SCHOOL PLANS

A B C D E F

PART 3-SCHOOL INTERESTS

	LIKE						DISLIKE
MUSIC							
ART							
MATH							
SCIENCE							
SOCIAL STUDIES							
ENGLISH							
FOREIGN LANGUAGE							
VOCATIONAL							

PART I CAREER PLANS

Occupational Area
1st Choice

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16

Job
1st

A B C D E F G H I J K L M N O P Q R S T U V W X Y Z

Occupational Area
2nd Choice

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16

Job
2nd

A B C D E F G H I J K L M N O P Q R S T U V W X Y Z

FOR COMPUTER USE ONLY

0	0	0	0	0
1	1	1	1	1
2	2	2	2	2
3	3	3	3	3
4	4	4	4	4
5	5	5	5	5
6	6	6	6	6
7	7	7	7	7
8	8	8	8	8

B-1.9

Continuing Education

The Manchester public high schools graduated 1,164 students in June 1971 and of this number 515 or 44 per cent went on to higher education.

This was disclosed in a survey conducted by the officials at Central, Memorial and West High Schools, according to the annual report of Supt. Henry J. McLaughlin. Among those who continued their education, 373 or 32 per cent of the total graduates are in four-year colleges. The others are attending junior colleges, nursing schools, business, technical and specialized schools.

The report also showed that 516 are employed so that about 99 per cent of last year's graduating classes are either going to school or are working.

Central High, which had a graduating class of 426, has the largest number continuing their education. There are 210, equal to 49 per cent of the class who are continuing their education, compared to 40 per cent of the Memorial class and 45 per cent of the West graduates.

Central also leads in the number who have gone on to four-year colleges. Its 165 students in college represents 39 per cent of the class while the 95 at West out of a class of 302 represents 31 per cent. Memorial has 113 in four-year colleges, representing 26 per cent of the class.

Half of the Memorial graduates are employed while at West the total is 43 per cent and 40 per cent for Central.

The report also shows that 49 graduates are serving in the armed forces of whom 23 are from Memorial, 19 from West and seven from Central.

A total of 33 Memorial graduates could not be reached while Central reports 16 are unaccounted for. All 302 graduates at West were contacted.

West reports seven are unemployed while Central reports two are unemployed. Memorial did not list any in that category.

Survey Of Graduates

A survey of the June, 1971 graduates by the three public high schools to determine what they are now doing brought the following results:

	Central	Memorial	West	Totals
Four Year Colleges	165	113	95	373
Two Year Colleges	6	9	11	26
Nursing Schools	9	7	2	18
Business Schools	12	5	6	23
Technical Schools	9	28	11	48
Specialized Schools	9	6	12	27
Employed	173	212	131	516
Armed Forces	7	23	19	49
Housewives	18	-	8	26
Unemployed	2	-	7	9
Unaccounted	16	33	0	49
Totals	426	436	302	1,164

ATTACHMENT C

STATE PLAN EXCERPTS

ATTACHMENT C

THE ROLE OF VOCATIONAL EDUCATION AT THE SECONDARY LEVEL[1]

(New Hampshire State Plan, 1970)

To maintain, extend and improve existing, and develop new programs of vocational education for those in high school; for those who have completed or left high school and are preparing to enter the labor market; for those who are already employed but need additional training or retraining; and for those with socio-economic academic, or physical handicaps is a major objective of vocational education endeavors in the State of New Hampshire. In order to reach this objective, programs will need to be enhanced by the utilization of all possible resources. Adequate facilities, equipment, curricula, teachers, counseling, placement, and follow-up services must be made readily accessible and available to all persons.

To date, the Division of Vocational-Technical Education has promoted an area-school concept to provide vocational education opportunities for a greater number of students. This approach has been in keeping with the philosophy expressed by the Vocational-Education Act of 1963. The Act mandated that five or more vocational programs must be offered in a school if federal funds were to be used to match local funds for constructing vocational facilities.

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[1] Excerpt from The Plan for Educational Education in New Hampshire Public Secondary Schools, New Hampshire State Department of Education, 1969.

MASTER PLAN FOR AREA VOCATIONAL FACILITIES IN NEW HAMPSHIRE[2]

(New Hampshire State Plan, 1970)

After a careful study of the vocational education needs in New Hampshire's secondary schools, the Division of Vocational-Technical Education, State Department of Education, suggests the establishment of twenty area vocational facilities strategically located throughout the state so as to provide ready access to any student wishing to participate in a vocational program.

The division of the state into twenty vocational districts is indicated on Map 2. Within each district at least one Vocational Center should be developed. Vocational offerings could also be made available in an adjacent school (s) if the vocational center is unable to accommodate all of the interested students or the center does not offer the course.

Regardless of the schools selected to provide vocational education, consideration must be given to providing programs for the disadvantaged and handicapped. Facilities and programs for students who are not capable of achieving in the regular vocational program must be a priority area whenever federal funds are being allocated.

Adult courses and programs for young people who have left school are also an important part of the vocational program. As the demand increases for people with special skills the need for adult programs providing upgrading and retraining will continue to increase.

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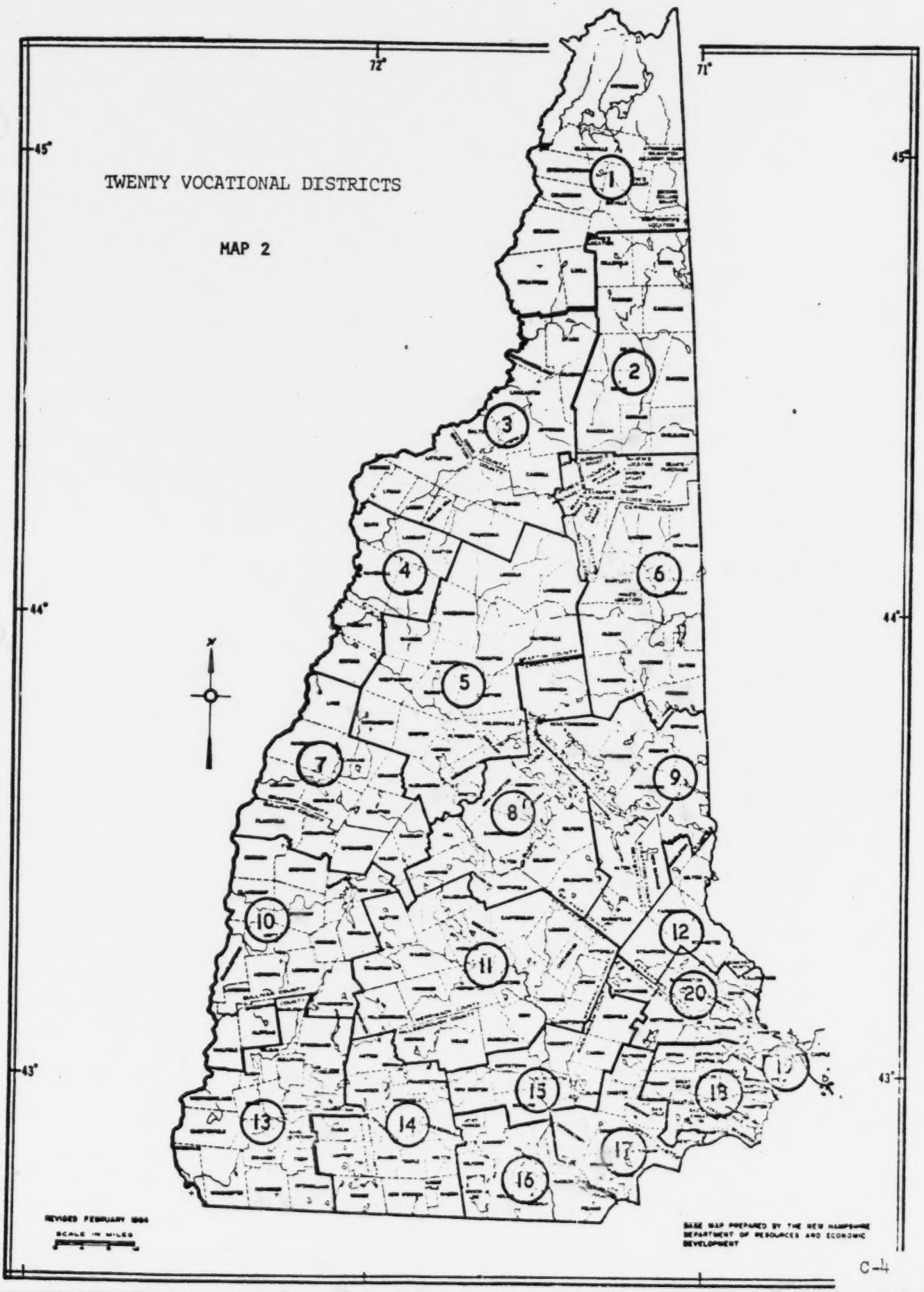
[2]Ibid, Page 13

Ultimately all of the districts of the state would have a complete program of vocational education for in-school students, the disadvantaged, the handicapped, out-of-school youths, and adults within a reasonable commuting distance.


TWENTY VOCATIONAL DISTRICTS
MAP 2
72°
71°
45°
44°
43°
1
2
3
4
5
6
7
8
9
10
11
12
13
14
15
16
17
18
19
20
N
REVISED FEBRUARY 1984
SCALE IN MILES
BASE MAP PREPARED BY THE NEW HAMPSHIRE DEPARTMENT OF RESOURCES AND ECONOMIC DEVELOPMENT

POLICIES FOR ACTION ADOPTED BY THE NEW HAMPSHIRE STATE BOARD OF EDUCATION

Why is vocational education necessary? It is "the bridge between man and his work"(1) and man must work! This is a fact of life. How well our education system meets the needs of the majority of students who leave high school and immediately enter the world of work ultimately affects our total society and each man in it.

Documented proof of the need to focus more attention on vocational education at the secondary level in New Hampshire can be found on the preceding pages. It is also important to note that recent decisions about education in various parts of the state indicate that local communities often are unable or do not choose to provide quality vocational education opportunities.

In the past, vocational education opportunities in New Hampshire secondary schools have resulted primarily from a local-federal cooperative effort. In future years, adequate progress can only be realized if the state establishes a definite secondary vocational education long-range plan.

Because of the many aforementioned problems and concerns, the Division of Vocational-Technical Education, New Hampshire State Department of Education presented recommendations to the State Board of Education for its consideration and action. The recommendations were approved as policy on March 12, 1969.

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[3] Ibid, page 16

The New Hampshire State Board of Education:

1. Approves and supports the improvement and expansion of vocational education in New Hampshire's comprehensive high schools as a legitimate credit program which is not an addition to, but an integral part of the total educational program.
2. Approves the Vocational-Technical Division's plan for establishing vocational education on a district basis with the objective of complete implementation by 1975.
3. Will designate specific comprehensive high schools to implement the plan. Designation of schools shall be upon recommendation of the Department of Education, Vocational-Technical Division, giving due consideration to:
   a. The adequacy of the enrollment to support a vocational education program using as a minimum base 500 students grades 9-12 except in unusual cases of geographical location.
   b. The local schools desire and ability to initiate, operate, and extend adequate quality vocational education to all persons in the vocational district.
   c. The local districts total planning effort which gives consideration to present and prospective facilities, equipment, staff, curriculum, and potential expansion.
   d. The interest and needs of potential students in the area, male and female, youths and adults.

e. The employment needs and other occupational training opportunities available.

f. The willingness of the school to provide flexible educational programs and scheduling including out-of-school work experience.

g. The appointment and utilization of an active advisory committee at the local level.

h. The provision of a minimum of five programs representing a minimum of four of the major vocational fields - Agriculture, Office Occupations, Distribution, Health, Consumer and Homemaking Education, and Trade and Industry.

4. Will appoint a state advisory committee for secondary vocational education representing each of the major vocational fields -- Agriculture, Office Occupations, Distributive Education, Health, Home Economics, and Trade and Industry plus representation from secondary principals and superintendents of schools. Membership representing the vocational fields will be recommended by the Division of Vocational-Technical Education. Membership should be specifically concerned with entry-level occupational training and employment.

5. Will focus attention on providing adequate state and federal support for the financing of vocational-technical education programs in secondary schools with major emphasis on:

a. An adequate tuition and transportation reimbursement formula which will provide potential day-school students with the opportunity to participate in a program of their choice regardless of residence.

b. A means of providing additional support to provide for the implementation and maintenance of vocational education at the secondary level including both construction and operational costs.

c. The provision of support for vocational education for out-of-school youth and adults, the disadvantaged, and handicapped.

6. Will continue federal financial support for existing vocational programs which maintain high standards of quality and enroll a sufficient number of students to warrant such expenditure of funds.

ATTACHMENT D

COOPERATIVE EDUCATION

ATTACHMENT D COOPERATIVE EDUCATION

Contacts with Businessmen

In an effort to create an awareness of vocational education and cooperative programs meetings were held with nineteen organizations in the city during the month of September 1971. Since that time individual contacts have been made to establish training sponsors for the 1972-73 school year, in the Automotive, Insurance, Banking, Dental and Building Trades areas.

Cooperative programs were established on a limited basis during the 1971-72 school year for seven students. During the current year, 1972-73, 30 students are involved.

Programs Funded	School	Students		Funding
		Total	Coop	
Automotive	Memorial	16	3	$ 3,718
Building Trades	West	15	5	3,560
Office Occupations	West	24	22	3,694
Distributive Education	To be determined		0	10,000

Projections

During 1972-73 thirty cooperative students, 5-15 in each vocational class are being placed in cooperative training.

Each following year additional training stations, job analyses and curriculum will be developed as the vocational programs expand. (see report section V)

Organizations Contacted

American Institute of Banking
BSA--Explorer Division
Chamber of Commerce
Downtown Merchants
Gasoline Retail Dealers
Insurance Information of New Hampshire
Jaycees
Kiwanis Club
Lions Club
Local Carpenter's Union
New Hampshire Health Careers
New Hampshire Division of Labor
New Hampshire Retail Groceries
Personnel Club
Rotary Club
State Apprenticeship Committee
Teamsters Union
Manchester Industrial Council

Definition of Terms

Activity Sheet: A sheet containing a list of work that must be completed for a particular training position.

Cooperative Education: An arrangement between school and the community whereby a student enrolled in a vocation/cooperative class is given an opportunity to get job related experience through a supervised and coordinated training station with individualized back-up training in the school.

Student Activity Learning Book: An individualized course outline which includes: (1) general information about the type of employer, (2) activity sheets that must be completed for each position within a training station, (3) resource and enrichment materials.

Training position: Specific job slot within the company.

Training sponsor: Employer

Training station: Cooperative training within a company that includes a variety of training positions.

Vocational/cooperative class: Class in which students receive core curriculum in their vocational cluster, a learning activity book related to their training station, supportive remedial units, as well as the requirements that must be maintained for cooperative work. (attachment D-5)

GUIDELINES FOR COOPERATIVE EDUCATION

Adopted by the Advisory Committee

Functions of the Advisory Committee:

1. Review and recommend guidelines for the cooperative program.
2. Advise and counsel the School Department on the possibilities of training for various occupations.
3. Make recommendations for the selection of craft or occupational consultants.
4. Promote good relationships between the schools and industries.
5. Evaluate content of courses of instruction.
6. Assist in explaining purpose and objectives of the program to the community.

Preparation for Meetings:

Agenda for each meeting will be prepared and sent to each member of the committee far enough in advance to permit reviewing the topics to be discussed. This will enable the members to present such data as they may desire.

Minutes of each meeting will be written and filed.

Duties of the Chairman:

The chairman will be a member of the Vocational Education Regional Council. The Chairman will:

1. Call the meeting to order.
2. Take up matters of business as submitted by the cooperative coordinator.
3. Bring to final conclusion the discussion of all items.
4. Close the meetings.

Duties of Secretary:

The secretary will be the cooperative education coordinator. The secretary will:

1. Prepare written agenda for meetings.
2. Send out information to all members.
3. Prepare and distribute minutes to members and school administrators.

Ground Rules Adopted by Advisory Committee:

1. Meetings will be about one hour in length.
2. Meetings will be held from September to May and at the call of the Chairman when necessary.
3. Agendas will be prepared for all meetings listing all subjects to be discussed and mailed from the coordinator at least one week in advance of each meeting. Topics for agenda may be suggested by any committee member to the chairman or coordinator.
4. Minutes of all meetings will be kept by the secretary and mailed to all committee members following each meeting.

Cooperative Education Guidelines, 1972-1973: (Adopted by the Adv. Committee May 12, 1972)

Students will:

1. Be at least sixteen years of age and enrolled in a vocational program.
2. Complete the student application
3. Have written recommendation from his vocational teacher.
4. Have completed the necessary pre-requisites for the cooperative program:

    Vocational Office Occupations:
    Type I, II
    Bookkeeping I or Record Keeping
    Shorthand I (secretarial)
    C average in English

Cooperative Education Guidelines (cont):

Distributive Education:
- Math
- Bookkeeping I
- C average in English

Automotive:
- Power Mechanics

Building Trades:
- Elementary Woodworking

5. Students once accepted in the program will be bound by the Training Agreement.

6. Minimum work - 15 hours per week
   Maximum work - 20 hours (except during vacations)

7. If program has an adverse effect on a student's school grades, after warning, he will be eliminated from the program.

8. After review, a student can be dropped from the Cooperative Program if he does not maintain an acceptable job attitude.

Cooperative Education Advisory Committee (est. 2/3/72)

Dr. Roland Bryan	Dentist
Mr. Gerald Carmen, Pres.	Car-Go, (Automotive Dealer)
Mr. W. Roy Couch, Sales Mgr.	Emery-Waterhouse (Wholesalers)
Mr. Earl Garrepy, Personnel	Merchants National Bank
Mr. Edward Roy, President	Roycraft Homes (Construction)
Mr. George Younger, Gen. Mgr.	Pariseau's (Retailer)

COOPERATIVE VOCATIONAL EDUCATION

Course Description

A course of work and study for selected vocational seniors enrolled in vocational courses.

This course involves an extension of student's program of study into a job situation requiring development of progressively advancing job skills. Provides opportunity to earn as student learns and enhances job placement upon graduation. Careful compliance with the provisions of Training Agreement, completion and acceptance of Student's Weekly Job Reports and achievement in Student learning activities books are required in addition to acceptable work in all required in-school subjects.

Vocational Students must:

1. complete cooperative application
2. guidance information
3. school attendance
4. school achievement
5. teacher recommendation
6. personal interviews
7. obtain working papers if they are under 18 years of age

Credits

Two credits a year are allowed for satisfactory completion of a year's Cooperative Education. Cooperative Education marks are based upon the following:

(1) Your Employer's Progress Report
(2) Your Weekly Student Report
(3) Related Class Performance
(4) Your Compliance with any and all requirements of the program

Student Weekly Reports are due each Monday covering work activities of the prior week. Credit at the rate of 10% each day will be deducted for overdue reports unless student is excused by Coordinator. Failure to turn in Student's Weekly Reports -or- Any other aspect of the program will mean:

(1) Either failures or incompletes upon your report card
(2) After warning - IT WILL MOST CERTAINLY MEAN THAT YOU WILL BE DROPPED FROM THE COOPERATIVE PROGRAM. You should realize that your job depends upon your FULL COOPERATION.

Compliance with Provisions of Training Agreement

Careful compliance with the following requirements of the Training Agreement MUST be maintained at all times. They are as follows:

Responsiblities of the Student:

1. The student will keep regular attendance, both in school and on the job, and cannot work on any school day that he fails to attend school; he will notify the school and employer if he is unable to report.

2. The student's employment will be terminated if he does not remain in school.

3. The student will show honesty, punctuality, courtesy, a cooperative attitude, proper health and grooming habits, good dress and a willingness to learn.

4. The student will consult the coordinator about any difficulties arising at the training station.

5. The student will conform to the rules and regulations of the training station.

6. The student will furnish the coordinator with all necessary information and complete all necessary reports.

Responsibilities of the Parents:

1. The parents will encourage the student to effectively carry out his duties and responsibilities.

2. The parents will share the responsibilities for the conduct of the student while training in the program.

3. The parents will be responsible for the safety and conduct of the student while he is traveling to and from the school, the training station and home.

Cooperative Education Student's Weekly Reports

Student's Weekly Reports are required. Failure to submit these in acceptable form will result in failures or incompletes on rank cards and in the student's records. A copy of this report form is enclosed herewith. Additional copies are available from your related teacher. Reports are to be brought by the student involved to your related teacher.

Cooperative Education Student's Activity Books

These Activity Books are an integral and very necessary aspect of the program. The effort is to stimulate independent, individualized, self-directive study along the lines of the student's vocational interests. It is the responsibility of the teachers to prepare or assist in the preparation of these books. It is permissible for cooperative students to prepare their own guides on subjects of their interests and upon approval of their teachers. Resources for these projects are available in the School Library and in the Coordinator's office.

Cooperative Education Student's Training Station Progress Reports

Training sponsor submits these evaluations of the students and his work each marking period. They form the basis of the student's rank in Cooperative Education. A copy of this report form is enclosed herewith so that the student will know what the training sponsor is looking for. This evaluation system is the one used by the training sponsor to rate his employees.

SUMMARY OF ACTIVITY

1971 - 1972

Training Sponsors	Related Teacher	Sch.	Area	No. Students
Gam Electronics	Mr. Leo Turgeon	West	Machinist	1
Hartford Insurance	Mrs. E. Butler		Business	2
	Mrs. J. Holland	Mem.		1
New Hampshire Insur.	Mrs. E. Butler	West		2
	Miss E. Koorkanian	Mem.		1

1972 - 1973

Training Sponsors	Related Teacher	Sch.	Area	No. Vcc. Students
Kilgus Pontiac Manchester Chrysler State Motors Dobles Genest Ford	Mr. M. Dutile	Mem.	Automotive	15
Hartford Insurance New Hampshire Ins. Sacred Heart Hospital Notre Dame Hospital Dr. Bryan, DMD A. I. B.	Mrs. E. Butler	West	Business	20
To be determined	Mr. R. Richard	West	Building Trades	16
To be determined	To be determined	West	D. E.	TBD

VOCATIONAL OFFICE OCCUPATIONS

Track	General	Machines	Math	Vocabulary	Activity Sheets	Back up	Audio-Visua
INSURANCE Clerk Typist Machine Trans. Rating & Coding	Units on attitude, grooming, career information (general and specific), job interviews, evaluation.	 Typewriter Dictaphone PC	Business Percents & Decimals	Insurance Glossary of Terms (Hartford)		Introducing Yourself to Property & Casualty Insurance: Auto, Fire, Homeowners, Research & Review Service of Am., Inc., Ind. Ind. 46218	Filmstrips: Auto Ins. Career Oppor Casualty Ins Homeowners Property & L Ins., Irwin ries, Homew Ill.
BANKING Bookkeeping and Transit area Collection Area		PC PC, Typewriter	Interest & Decimals Interest & Decimals, Time paym't	AIB Materials AIB Materials		Principles of Bank Operations AIB, 1971	Films: Bank Securit Bank Tellers
DENTAL ASSISTANT		10 key PC & Dictaphone	Bookkeeping AR & AP	Glossary of Terms Park & Ashman		Dental Assistants, W.B. Saunders, 1966.	Slides
BOOKKEEPER		PC, Typewriter	Bookkeeping II				
CLERK TYPIST		Typewriter					
GENERAL CLERICAL		Typewriter 10 - key			Simulation		
SECRETARIAL		Typewriter, Dictaphone, 10 - key		Area of concern			

VOCATIONAL OFFICE OCCUPATIONS

1972-73

Machines	Math	Vocabulary	Activity Sheets	Back up	Audio-Visuals	Resources	Electives
Typewriter Dictaphone PC	Business Percents & Decimals	Insurance Glossary of Terms (Hartford)		Introducing Yourself to Property & Casualty Insurance: Auto, Fire, Homeowners, Research & Review Service of Am., Inc., Ind. 46218	Filmstrips: Auto Ins. Career Oppor. Casualty Ins. Homeowners Property & Liab. Ins., Irwin Series, Homewood, Ill.		
PC PC, Typewriter	Interest & Decimals Interest & Decimals, Time paym't	AIB Materials AIB Materials		Principles of Bank Operations AIB, 1971	Films: Bank Security Bank Tellers	Guest Speakers--AIB	Economics
10 key PC & Dictaphone	Bookkeeping AR & AP	Glossary of Terms Park & Ashman		Dental Assistants, W.B. Saunders, 1966.	Slides	Dr. R. Bryan Conventions	Biology
PC, Typewriter	Bookkeeping II						
Typewriter							
Typewriter 10 - key			Simulation				
Typewriter, Dictaphone, 10 - key		Area of concern					

July 22, 1971

Cooperative Education Coordinator

Activities	MANREVEP	Date Due	Done	
1. Select the survey instrument	a	6/71	x	
2. Meet wit. professional organizations	e	7-9/71	x	September - October met with organizations to PR sur
3. Distribute the survey instrument	f	7/71	x	Mailed out 9/30/71 (business), 10/71 (student)
4. Analyze the survey instrument	f	9/71	x	November-December 1971
5. Select co-op advisory board	b	6/71	x	February 3, 1972
6. Develop co-op brochure		11/71	x	March 29, 1972
7. Presentations to professional organizations	f	8-9/71	x	9/71
8. Meet with vocational teachers	h	9-11/71	x	Formally scheduled meetings and informal meetings
9. Identify vocational programs that will be co-op	x	12/71	x	Identified 12/71, funded 3/6/72
10. Survey student's interest	e	12/71	x	10/26/71, 5/72 (students enrolled in the voc classes
11. Contact potential training station employers	k	1-4/72	x	Starting in April 1971 and still going on.
12. Contract training stations and write job descriptions	k	6/72	x	On going--Hartford, NH Ins., Gam, Dr. Bryan, Merchant Bank, Bank of NH, Sears, Kilgus, MCP, State Motors, Dobles, etc.
13. Develop training profiles	l	7-8/72	x	Same as above
14. Conduct a series of workshops with co-op teachers to develop curriculum and individualized in struction for the co-op student	r	12-5/72	x	2, Behavioral Objective Workshops; 1 Learning Packet; 1 Evaluation of developed packets; 1-12 Wks. August December Workshop. On going--workshop scheduled 12 wks. August-December
15. Recommendations: Course pre-requisites equipment facilities	g	6/72	x	Pre-requisites set by Advisory Committee Equipment and facilities recommended by Teacher and Consultants.

D-9

VOCATIONAL OFFICE OCCUPATIONS INSTRUCTIONAL MODS

YEAR	ACCOUNTING	BANKING		SECRETARY					CLERK TYPIST	DEN
		TELLER	COMPUTIN;	GENERAL	INSURANCE	LEGAL	LEGAL	MEDICAL	TECHNICAL		
SENIOR ENGLISH*		VOCATIONAL OFFICE OCCUPATIONS INDIVIDUALIZED LEARNING PACKETS RELATIVE TO STUDENTS AREA OF INTEREST UNITS ON ATTITUDE, GROOMING, CAREER INFORMATION (GENERAL AND SPECIFIC)								
JUNIOR ENGLISH* U. S. HISTORY	Business Corres.& Rep.			X	X	X	S-L X	S-M X	S-T X	X	
	A-3		X	X							
	A-4										
	Data Process Fundamentals	X	X	X	X						
			Spelling & Voc.	X	X	X	X	X	X	X	
						S-3	X	X	X		
						S-4	X	X	X		
SOPHMORE ENGLISH* PHYS.ED.* SCIENCE*	Bus. Engl.	X		X	X	X	X	X	X		Chem
	Alphabetic & Subj. Filing		X								
	Calc.Mach.	X	X	X	X						
	A-1		X	X		X	X	X	X		
	A-2		X	X		X	X	X			
				Index F. Rec.Man.	X	X	X	X	X		
				T-3		X	X	X	X	X	
				T-4ET		X	Legal	Medical	Technical	X	
				Duplic.M.							
						C.B.M.	X	X	X	X	Biol
						S-1	X	X	X		
						S-2	X	X	X		
FRESHMAN ENGLISH* PHYS.ED* MATH *	Business Law						X				
	Business Math	X	X	X	X	X	X	X	X	X	
		RecordK.			X					X	
				T-1	X	X	X	X	X	X	
				T-2	X	X	X	X	X	X	
JUNIOR HIGH SCHOOL		ORIENTATION TO ALL VOCATIONAL PROGRAMS EXPLORING OFFICE CAREERS INTRO TO BUSINESS									

*Required courses.

VOCATIONAL OFFICE OCCUPATIONS INSTRUCTIONAL MODS

NG COMPUTIN	SECRETARY GENERAL	SECRETARY INSURANCE	SECRETARY GENERAL	SECRETARY LEGAL	SECRETARY MEDICAL	SECRETARY TECHNICAL	CLERK TYPIST	DENTAL ASST.	RECEPTIONIST
OFFICE OCCUPATIONS INDIVIDUALIZED LEARNING PACKETS RELATIVE TO STUDENTS AREA OF INTEREST UNITS ON ATTITUDE, GROOMING, CAREER INFORMATION (GENERAL AND SPECIFIC)				S-L	S-M	S-T	JOB INTERVIEWS	EVALUATION	
	X	X	X	X	X	X	X	X	X
X	X								
A-4									
X	X	X							
pelling Voc.	X	X	X	X	X	X	X		X
			S-3	X	X	X			
			S-4	X	X	X			
								Chem. 1*	Recp.&Trainin.
	X	X	X	X	X	X			
X								X	
X	X	X							
X	X		X	X	X	X			
X	X		X	X	X				
	Index F. Rec.Mgn.	X	X	X	X	X			
	T-3		X	X	X	X	X		
	T-4ET		X	Legal	Medical	Technical	X		
	Duplic.M.								
			C.D.M.	X	X	X	X	Biol. 1*	
			S-1	X	X	X			
			S-2	X	X	X			
				X					
X	X	X	X	X	X	X	X		X
		X					X	X	
	T-1	X	X	X	X	X	X	X	X
	T-2	X	X	X	X	X	X	X	X

N TO ALL VOCATIONAL PROGRAMS
EXPLORING OFFICE CAREERS
INTRO TO BUSINESS

May 9, 1972

ATTACHMENT E

through

ATTACHMENT N

(separate attachments)